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INTRALARYNGEAL INSUFFLATION.

FOR THE RELIEF OF ACUTE SURGICAL PNEUMOTHORAX. ITS HISTORY AND METHODS WITH A DESCRIPTION OF THE LATEST DEVICES FOR THIS PURPOSE.

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In man, as in the lower animals, the sudden admission of air in the normal pleura, whether this occurs accidentally or as the result of deliberate purpose in the course of operative interventions in the thorax, is a condition always fraught with much danger to the patient and anxiety to the operator.

It is not a small, accidental puncture or aperture communicating with the pleural cavity, permitting the gradual entrance of air and the production of a partial pneumothorax, that is feared, but it is the large openings which allow the rapid and free entrance of air, and that are followed almost invariably by collapse of the lungs, cyanosis and evidences of defective oxygenation and arrested respiration, that have led the surgeons of all times to dread the production of traumatism or surgical pneumothorax as one of the greatest evils in intrathoracic surgery.

The evidence on this subject is so complete that it is almost superfluous to discuss it. Nothing can be added to the experimental evidence which, beginning with the classic researches of Glück, Block, Marcus, Schmidt and Biondi in the early '80s, ended with Murphy's work in 1897, or to the clinical observations which, commencing with Richerand's historic case of resection of a thoracoparietal tumor in 1818, have accumulated in such numbers that a mere list of the contributions referring to this grave accident would make up a large-sized volume.

It was the fear of pulmonary collapse that led Dieffenbach, with all his temerity and daring, to command that in operating on thoraco-parietal neoplasms the surgeon "should halt at the pleura," and Stromeyer, Albert, Heinecke, and Bardeleben were scarcely less emphatic. Roser recommended long meditation before undertaking the removal of any tumor of the chest that might involve the pleural serosa. Billroth himself, in 1887, for the same reason declared that he was not in favor of the extirpation of tumors involving the thoracic parietes. Subsequent events have shown that while great progress has been acomplished by a better appreciation and control of septic conditions and the improvements in the technique of anesthesia and hemostasis, and better results have been obtained for this reason alone, the dangers from pneumothorax have remained until quite recently an unchanged factor in the mortality.

Whatever the essential causes of the asphyxia caused by acute traumatic pneumothorax, they are always associated with the sudden, free, large opening of the normal pleura, and with the interference of the pulmonary respiration induced by the collapse of the lung; while the phenomena vary in intensity according to individual conditions, and in some few cases are so slight that they can be disregarded, it is the duty of every surgeon, whenever he is about to undertake an operation on the chest or neighboring regions which might involve the pleura, to assume that pneumothorax is inevitable, and that he must be prepared to prevent or meet its evil consequences.

It is the risk of acute pneumothorax that has led surgeons like Krause and Tuffier to advise the detachment of the pleura to facilitate the extrapleural exploration of the lung, just as detachment of the peritoneum to facilitate the *extraperitoneal* exploration of the abdominal cavity was advised at a time when the risk of peritonitis was more seriously feared than now. Notwithstanding Tuffier's brilliant and unique success with this method, which in 1894 permitted him not only to explore but to extirpate a tuberculous apex, the procedure is, as a rule, impracticable, and has not been repeated. The fear of shock and the interference with respiratory functions will prevent the general adoption of Bazy's method of direct intrapleural exploration which that surgeon was the first to practice with success in 1895.

Bazy makes an incision in the intercostal space just long enough to admit the index finger into the pleura, being careful to plug the wound with the finger while exploring. H. Delagenière, with less regard for the dangers of pneumothorax, would open the pleura freely for exploratory purposes, trusting to his ability to quickly seize the retreating lung and suture it to the wound to prevent complete atelectasis. Poirier, Lejars, Ricard, Monod and others have adopted Bazy's procedure, but with varied results. The advantages of free and direct *intrapleural* exploration of the lungs to determine the existence or non-existence of adhesions, to localize lesions of the lungs and other intrathoracic organs, and to determine their operability, are too obvious to be insisted upon; but such a procedure, no matter how carefully or aseptically conducted, is fraught with risk, and will never appear to the general surgeon in the same light that he now regards exploratory laparotomy. *Until the danger of seriously interfering with the respiratory functions, by inducing acute collapse of the lungs, is clearly eliminated or is reduced to a safe minimum, the analogy between the pleura and the peritoneum from the surgical point of view will never exist.*

The methods that have been tried to counteract the disastrous effects of acute pneumothorax in the course of operations in the chest are, with few exceptions, more the results of instinct and empirical experience than of a clear understanding of the physiologic con-

*Read at the meeting of the Southern Surgical and Gynecological Association, held at New Orleans, November, 1899.

ditions that are at fault. The dominant idea thus far has been to act in such a way as to prevent the further encroachment of air on the crippled lung rather than to restore respiratory function by inflating the collapsed lung directly. From the days of Richerand, and long before him, as shown by chronicles of the medieval surgeons, by the evidence furnished in the old Chirurgy of Guy de Chauliac and of Mâitre Ambroise Paré in penetrating wounds of the chest, the first step taken by the operator was to immediately seal the opening, a practice which, in spite of the many vicissitudes which it has undergone, is still recognized as efficient in producing some measure of relief. Sealing the wound has been found to do good in all cases, but in many the relief experienced by this means is only partial, as e. g., in Doyen's case of thoracic resection for neoplasm, in which the final relief to the dyspnea was obtained only after the air contained in the pleura had been removed by aspiration. I could also quote one of my own experiences in which I explored a wounded pericardium and lung through a large trap-door opening and yet obtained no marked relief to the pneumothorax after the external wound had been sealed completely. In other instances relief has been obtained by seizing the retreating lung and suturing it to the parietal opening which is plugged by it—Pean, Roux, Delangenière, Bayer, Murphy, Parham, etc. This practice is sound and undoubtedly efficient, but it is only available after the shock of the primary collapse of the lung and partial asphyxia has added materially to the dangers of the operation; it is certainly not a preventive of atelectasis, and this is surely a greater desideratum than the relief of this condition when it has actually occurred. The procedure adopted by Lawson, who prepared a tuberculous lung for pneumectomy by the preliminary injection of sterilized air into the pleura, while certainly successful in his case, is not available in the majority of traumatic and acute conditions in which the maintenance of the respiratory function of the lung, and not its permanent suppression, is essential for the welfare of the patient. Neither is Witzel's suggestion to inject water so as to produce an artificial hydrothorax; nor Murphy's plan of injecting nitrogen gas an available method in acute cases, since by all of these procedures the ideal—viz., the maintenance of the lung function—is not considered. Dr. Murphy's latest suggestion to steady the mediastinal septum by placing a long forceps on the hilum of the collapsed lung, or by pulling and drawing it out to the external wound, is consistent with his theory of the cause of acute pneumothorax, and is, no doubt, valuable, but it is not a satisfactory solution of the problem, since it only relieves the pneumothorax *after* the initial shock of acute pulmonary suppression has been sustained.

The artificial or preliminary production of adhesions to obliterate the pleura, and thus obviate the dangers of atelectasis as well as of sepsis, is clearly of little avail to the surgeon who is dealing with acute conditions, or is seeking a means of diagnostic exploration. Adhesions are really serviceable only after the necessary diagnostic explorations and manipulations have been accomplished. The production of adhesions will always remain our sheet-anchor in dealing with circumscribed septic conditions in which the dangers of contamination—as in evacuating pulmonary abscesses, tuberculous vomicæ, gangrenous foci, draining cysts, etc.—are to be avoided; but when our aim is to explore the lung for the localization of these lesions, when we seek to remove foreign bodies from the bronchi or esophagus, or when we are exploring the wounded pericardium, lung or diaphragm, or when we would extirpate thoracic, mediastinal and other neoplasms, the ideal is to maintain the respiratory function uninterruptedly until the operation is completed, after which the artificial production of adhesions will find its legitimate sphere of application.

Therefore, while recognizing the greater or less value of all the suggestions hitherto made to prevent pneumothorax, and to relieve it when it exists, it is still evident that the ideal indication—viz., to maintain the respiratory function of the lung in the course of intrathoracic operations—can only be successfully met by a method of direct rhythmical insufflation of the lungs through the larynx or trachea which will neutralize the collapsing effect of atmospheric pressure by increasing the intrapulmonary tension.

The procedure that is most effective in realizing this great desideratum—viz., the prophylaxis of pneumothorax—is the artificial inflation of the lungs and the rhythmical maintenance of artificial respiration by a tube inserted in the glottis directly connected with the bellows or an air-pump. Like other discoveries, it is not only elementary in its simplicity, but the fundamental ideas involved in this suggestion have been lying idle before the eyes of the profession for years in spite of the accumulated evidence of its utility in other non-surgical conditions.

While the suggestion of insufflating the lungs for the maintenance of the pulmonary function in thoracic operations is an essentially modern and very recent conception, it is a new idea only in so far as its application to thoracic surgery is concerned. In principle it is a very old one, as is shown by a glance at the history of its therapeutic application.

If we investigate the subject we find the germinal ideas that have inspired its application in lung surgery in at least three different directions: 1, insufflation as an aid in the resuscitation of persons dying, or apparently dead, from drowning or suffocation; 2, insufflation in pediatric and obstetric practice—to restore asphyxiated infants; and, finally, 3, intubation of the larynx for the relief of asphyxia in cases of acute and chronic laryngeal stenosis, more especially in the obstructive laryngitis of diphtheria. In all of these conditions medical history shows that even in the earlier times intrapulmonary insufflation for surgical purposes had been clearly anticipated by various appliances intended to arouse and maintain the activity of the pulmonary functions.

INSUFFLATION AS AN AID IN RESUSCITATION OF PERSONS DYING, OR APPARENTLY DEAD, FROM DROWNING OR SUFFOCATION.

It would be embarrassing to state when insufflation for asphyxia was first suggested or practiced, but it is evident that the importance of respiration and the fatal consequences of its prolonged suspension must have been empirically appreciated by the most primitive and ancient peoples. According to Depaul, the first written references to insufflation are to be found in the Holy Scriptures. But, without retracing our steps so far back into the shadows of the past, we find, according to the same authority, that Paracelsus (1493—1541) made use of a bellows which he connected with a tube that led to the mouth of asphyxiated persons. Panarolus at a later date employed the same means to restore persons suffocated with charcoal fumes. Monroe, of Edinburgh, made use of a large bellows with which he insufflated air into the larynx through the pharynx. Sub-

equently the advent of experimental medicine and the study of the physiology of respiration stimulated the ingenuity of laboratory workers, and a great number of machines, pumps and bellows were devised to study the respiration by artificial insufflation with a canula inserted in the trachea.

The medical men of the latter part of the eighteenth century and those of the first half of the present century were especially active in inventing insufflating appliances. These were not only applied to animals in laboratories, but to human beings. The "emergency chests," "first-aid" outfits and the *"boite de secours"* which were supplied to police surgeons and life-saving stations on the coasts of England, France and the Continent were not considered complete without some form of air-pump or apparatus for intra-oral, nasal or pharyngeal insufflation.

The list of special appliances designed to accomplish the last two procedures would make up a formidable catalogue, but to quote those more generally known we would mention William Hunter's and Monroe's instruments in England, who used bellows with intralaryngeal tubes. Desgranges, of Lyons (1786) was the author of a pump which he called the "pyulque." Hans Courtois, of Tourney, in 1789, invented a double pump which alternately injected and aspirated air into the lungs through a tracheotomy canula. To avoid the complicating operation of tracheotomy, Fine, of Geneva (1800), devised a special intralaryngeal tube made of leather, which he inserted through the nose. Pia and Garcy used long gum-elastic tubes or laryngeal catheters, which were loosely fitted into the nose or into the larynx through the glottis. The experiments of Goodwyn (1788) contributed considerably toward the general adoption on the Continent of an English pump devised by Nooth. The intralaryngeal canula of James Curry (1791) was also well known. It was simpler than Courtois' machine, and could be used either in the nose, larynx or trachea. John Murray modified this appliance so that it would inject warm air. Cap, of Lyons (1828), also described an intubating-tube attached to a pump. Lecat, Louis, Tissot, Reamur, Fontana, Marc, A. Portal, in France; Johnson, in England; and Troja, in Italy, were strong advocates of insufflation of the lungs for asphyxia, believing this the best method to restore the victims of asphyxia from no matter what cause.

Renewed attention was excited in the question in 1829, when Leroy (D'Etiolles), in a memoir addressed to the French Academy of Sciences, declared that if at that time (1829) the number of persons saved from drowning had perceptibility diminished since the earlier days of Pia (1774), it was due to the indiscriminate application of insufflation of air into the lungs, which was then the common practice. He based his opinions on numerous experiments which he performed on rabbits, foxes, goats and sheep, in which deaths had occurred with alarming frequency as a result of the sudden and forcible insufflation of air into the trachea. Other animals, such as dogs, ha[illegible]sisted this sudden insufflation, but had only suffered from bad symptoms for a number of days.

The French Academy appointed a special committee, consisting of Dumeril and the celebrated physiologist Magendie, who confirmed Le Roy's observations, and extended his experiments to the dead bodies of newborn infants and adult human cadavers. These observations showed that the sudden, violent injection of air into the lungs might lead to acute emphysema, rupture of the smaller bronchi and laceration of the lungs, with the production of acute pneumothorax and secondary collapse of the organs. The general conclusions arrived at by the committee were that, while gentle insufflation was not dangerous, there was decided danger in the practice when this was intrusted to inexperienced or unskilled hands. Notwithstanding the opposition of Marc, Albert (of Wiesenthal), Piorry and others, Le Roy's report produced a lasting impression, which was decidedly unfavorable to the further advance of the practice of insufflation and contributed largely to its decline, until 1845, when a new movement was vigorously started in its favor through the exertions of Dr. Depaul, the learned professor of obstetrics at the Faculté.

INTUBATION OF THE LARYNX AND INSUFFLATION OF THE LUNGS IN PEDIATRIC AND OBSTETRIC PRACTICE.

With Depaul's advocacy of intralaryngeal insufflation in asphyxiated infants began a new and fruitful epoch in the history of insufflation. In his monumental mémoir, "Sur l'insufflation de l'air dans les voies aeriennes chez les enfants qui naissent dans un état de mort apparente" (*Journal de Chirurgie,* 1845), he reviewed, in a masterly, exact and thorough manner, all the experimental and clinical evidence on the value of pulmonary insufflation in all its phases. He concentrated his chief effort, however, in the study of the treatment of the asphyxia of the new-born. He demonstrated that all the arguments against insufflation were idle and were based on erroneous conclusions, and proved, by numerous illustrations drawn from his vast

FIG. 1.

The original Chaussier tube for intubation of the larynx and insufflation of air in asphyxia neonatorum. The broad end of the tube is used for direct mouth insufflation. (From Depaul's article in the "Dictionnaire Encyclopédique," vol. xiii., 13th series, p. 601.)

and unlimited experience, that it was a precious and most reliable method of resuscitation in such cases. He revived the old intralaryngeal tube of Chaussier, his predecessor at the Maternité, and established the latter's claims as the real founder of the method of insufflation in infants. (Vide Chaussier's "Considerations sur les secours aux enfants qui naissent dans un état de mort apparente," Procès-verbal de la distribution de Prix faite a la Maternité, 26 Juin, 1806.) Depaul slightly modified the Chaussier tube, and made it a permanent part of the obstetrician's outfit in his time. He demonstrated, among other things, that the insufflation of air into the trachea was equally as effective in expanding the lungs of the fetus that had never breathed as in restoring the breathing of the infant that had already partially inhaled air.

His instrument, the Chaussier-Depaul tube, was shaped somewhat like a curved, hollow, conical urethral catheter with rounded end, and was provided with a flanged neck or guard which limited its penetration into the trachea. The long, extraoral extremity was provided with a mouthpiece, to which the operator's lips were applied, and through which he blew directly into the infant's trachea. (Fig. 1.)

The Chaussier tube found a strong advocate in the distinguished Madame Lachapelle, who relied upon it

largely in her practice. But other writers, such as Meunier and Noel, of Strassburg, Lobstein and Flamant, rejected it because of the alleged difficulties encountered in its introduction.

Depaul's persistency, however, overcame all objections made against insufflation, and new impetus was given the subject by those who busied themselves in modifying or improving his simple but effective canula. Among the numerous inventions that followed after Depaul's memoir of 1845, the *"aerophore pulmonaire,"* which Dr. Gairal presented to the Academy in November, 1879, deserves special mention in this connection. It consisted in a long intubating canula provided with a short laryngeal curve which he had attached to a compressible rubber bag, very much like the modern Politzer bag. The canula entered the glottis, and air was supplied by this rubber bulb. It differed practically from the Chaussier tube only in the addition of the rubber bulb, which took the place of the operator's lungs. (Fig. 2.)

In 1877, Pros, of la Rochelle, added a new but impracticable laryngeal insufflator, which was provided with a tongue-depressor and an epiglottic elevator combined. This was probably never used by anyone except its originator.

FIG. 2.

Gairal's aerophore for intraglottic intubation, with detachable rubber bulb for direct insufflation of air in asphyxia neonatorum. (From Depaul's article in the "Dictionnaire Encyclopédique," vol. xiii., 13th series.)

In 1877, Ribemont described a new tube which differed from the old Chaussier canula in its curve. This curve was based upon an anatomic study of the parts, and had attached to it an air-pump. Its intralaryngeal end resembles and closely suggests the present form of O'Dwyer's intubating canulas. Like Gairal, he adapted a detachable bulb to the handle of the intralaryngeal tube. The compression of the bulb was graduated by certain marks according to the quantity that it was desired to insufflate with each compression of the hand. (Fig. 3.) Other modifications in the insufflating apparatus were introduced by manufacturers. One of these consisted in a double or compound bellows which simultaneously aspirated the vitiated air and injected fresh, pure air, just as Doyen has done recently with his modern and ingenious apparatus.

Depaul objects to all the modifications of his tube and to all insufflating appliances as unnecessary complications. He says that at least in new-born infants the elastic recoil of the chest and lungs is amply sufficient to expel all the vitiated air during the full expiration that follows a forced inspiration. A little experience and practice in inflating the lungs by the direct expiratory efforts of the operator will furnish an infinitely safer and more satisfactory insufflator than any mechanical inflator, since the operator is better able to appreciate the resistance of the lungs to the intrabronchial pressure. In this way the degree of inflation is thoroughly adjusted to the chest capacity. While this is no doubt true, it is nevertheless possible to obtain equally excellent results with a small bulb or bellows of 100 to 200 c.c. capacity, and in view of the greater convenience of this method to the operator, it must be regarded as an advantageous modification. In this connection I am much pleased to direct attention to the

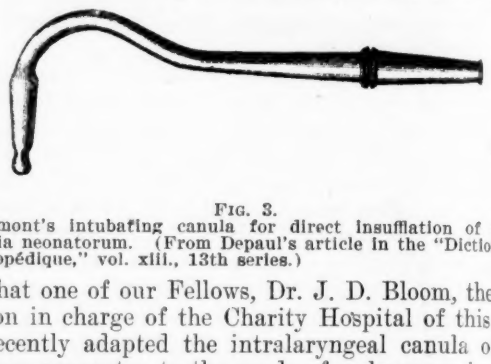

FIG. 3.

Ribemont's intubating canula for direct insufflation of air in asphyxia neonatorum. (From Depaul's article in the "Dictionnaire Encyclopédique," vol. xiii., 13th series.)

fact that one of our Fellows, Dr. J. D. Bloom, the able surgeon in charge of the Charity Hospital of this city, has recently adapted the intralaryngeal canula of the O'Dwyer apparatus to the needs of pulmonary insufflation in asphyxia neonatorum. (Fig. 4.)

His apparatus is furnished with a rubber bulb or bag, which reminds one of the Gairal and Ribbemont instruments. The conical and graduated forms of the O'Dwyer tips make them fit easily into the glottis and render the instrument one of the most useful yet devised. The facility with which the O'Dwyer canula is applied, especially in the new-born infant, will, I trust, tend to popularize and revive the practice of intralaryngeal insufflation in this frequent and fatal condition, since it is by far the most direct and effective method

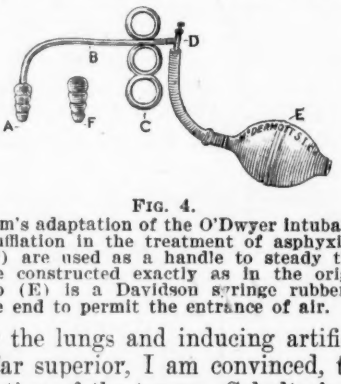

FIG. 4.

Dr. J. D. Bloom's adaptation of the O'Dwyer intubating canula for intraglottic insufflation in the treatment of asphyxia neonatorum. The rings (C) are used as a handle to steady the intraglottic canula, and are constructed exactly as in the original O'Dwyer tube. The bulb (E) is a Davidson syringe rubber bulb with a valve at its free end to permit the entrance of air.

of expanding the lungs and inducing artificial respiration. It is far superior, I am convinced, to Laborde's rhythmic traction of the tongue, Schultze's, Sylvester's, Hall's, Daniel's, and other indirect methods that are at present in vogue in obstetric practice.

In a rather hasty review of the literature of artificial respiration and the various mechanical appliances that have been invented for this purpose in the course of the present century—a literature which is adequately represented by the large collection in the surgeon-general's library at Washington—I have been struck by the close similarity, in principle at least, of two American inventions suggested and described independently and at a long interval of each other. The first is the apparatus described by Dr. Truehead, of Galveston, Texas, in 1869. (Ein Apparat Zur Kunstlichen Respiration bei

Asphixia, Mitth. a.d. Sitz-Protok. der Gesselschaft f. Geburtsch. in Berlin, 1869-72, i., 154-156, 2 pl.) This rather complicated appliance was originally intended to insufflate air into the lungs by means of an intubating canula which was inserted into the glottis and larynx. There are at least two sizes of the intralaryngeal pieces, graded to suit the ages of the patients—chiefly newborn infants. The laryngeal piece is pyriform in shape, and is made to conform to the size and outline of the glottic orifice. It fits closely to the larynx, and its conical shape facilitates its tampon action. The mouthpiece is shaped like a curved catheter, and this is connected to a bellows which works on a vertical axis and automatically injects and aspirates air in and out of the trachea in a rhythmical fashion. As a true intubating canula and respiratory machine supplied by a bellows, it clearly anticipates—though it is a far more complicated way—the second American invention, with which we are familiarly acquainted as the Fell-O'Dwyer apparatus. Truehead's description is fully detailed and well illustrated in "Transactions of the Berlin Obstetrical Society" for 1869-72. I have not been able to find any reference to Dr. Truehead's original work in English, and my only source of information is from the paper in the German proceedings. It is certainly worthy of a distinct place in the history of American inventions for the relief of asphyxia neonatorum, and is entitled to precedence over the Fell-O'Dwyer apparatus, as it anticipates in principle almost all the essential characteristics of this latter but more simple appliance. It is curious that, notwithstanding its American origin, we should have been so thoroughly ignorant of its existence in this country, and that we should be compelled to acknowledge our indebtedness for all the information available to German sources.

INTUBATION OF THE LARYNX.

Another source of inspiration which has led to the present form of intralaryngeal insufflation by intubation as a substitute for the tracheotomy canula for surgical purposes is found in the efforts made at various times in medical history to intubate the larynx for the relief of asphyxia when caused by acute or chronic laryngeal obstruction. The suggestion which culminated in O'Dwyer's epoch-making observations, first published in January, 1880, can be traced back, as we are told by Dillon Brown, to Hippocrates, who said that "canulas should be carried into the throat along the jaws, so that air may be drawn into the lungs." Intubation was practiced by Desault in 1801, by Finaz in 1813, and subsequently by Lallemand, Benoit, Depaul, Loiseau and Gros, in France; by Weinlechner, Trendelenburg and Von Huttenbremer, in Germany; by Patton, Liston, Sanctuary and Macewen in England; by Horace Green in this country, and by a host of others too numerous to mention. But the experiments of all these workers, with the solitary exception of Bouchut's brief experiments and failures with short tubes, in 1858, were made with catheters or long tubes of similar make. It is to O'Dwyer, therefore, that the greatest credit is due for establishing intubation in its present form, and it is due to his unswerving and indefatigable perseverance, patience and mechanical ingenuity that the present form of apparatus has attained its marvelous efficiency.

O'Dwyer's resurrection of Bouchet's crude ideas on intubation, and his magical transformation of the bloody and tragic picture of tracheotomy in diphtheria into a simple, painless and bloodless bit of technical jugglery, has practically closed for all time one of the most animated chapters in the history of surgery. By similarly transforming the tracheotomy canula of the insufflating apparatus that Dr. Fell, of Buffalo, has devised for the sustained practice of artificial respiration in opium narcosis he has opened a new chapter of still greater interest and promise than that which his previous achievements had brought to a close.

While thus, according to Fell and O'Dwyer all the credit that is due them as independent investigators, and for perfecting and simplifying an apparatus which has proved itself thoroughly efficient and reliable in maintaining artificial respiration, it must be recognized that the idea of applying this method to the needs of thoracic surgery originated in other sources, and that in writing the history of the subject in its surgical relations, due credit must be given to other and independent investigators.

(To be continued.)

INTUBATION OF THE LARYNX.

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Intubation of the larynx, which has been employed in many thousand cases in this country and abroad, has now taken its place with tracheotomy as a well-recognized procedure in the treatment of obstructive dyspnea.

Before taking up the technique of the operation, I will briefly consider its history and the indications for the employment. The passing of a tube, as for instance a catheter, for the relief of laryngeal obstruction is of ancient origin, but it was not until 1858 that Bouchet, of Paris, devised special instruments for this purpose. Unfortunately for Bouchet, owing partly to the defective condition of the instruments, the profession of Paris, led especially by the great authority, Troussseau, not only condemned but ridiculed the new method. Criticism coming from such an authority as Trousseau caused the treatment to meet with so little favor that it was soon entirely abandoned.

While catheterism of the larynx has since at various times been attempted by McEwen and others, it was the genius of the late Dr. Joseph O'Dwyer, of New York City, that brought the instruments to a degree of perfection which left nothing to be desired, for in 1881, just twenty-three years after Bouchet's experiments, O'Dwyer, without knowledge of any previous attempt, produced instruments of a satisfactory nature and at the same time established the validity of Bouchet's statements. From that time the operation has been growing in favor, and with many operators has superseded tracheotomy as the primary operation in laryngeal stenosis, and this is especially true with the profession in Paris. On the other hand, however, in Germany and England O'Dwyer's invention has been but little used.

Before the advent of serum treatment for laryngeal diphtheria, in a series of 7070 cases collected by Lanke, Dillon Brown, McNaughton and Maddren, the mortality was 60.4 per cent., while since the use of antitoxin, in 1155 cases collected by Welch and the American Pediatric Society the mortality was 26.2 per cent., showing a reduction of 34 per cent. by the use of the serum treatment. The results of tracheotomy have likewise been greatly improved by the antitoxin treatment, and in nearly the same ratio as in intubation, a collection of 23,941 tracheotomies for croup in pre-antitoxin days, collected by Prescot and Goothwaite, gives a mortality of 71.3 per cent. Of 873 tracheotomies performed after the use of serum the mortality was 40.9 per cent. It is

useless to multiply evidence, for from all parts of the world the testimony is the same, that the mortality in cases of laryngeal diphtheria requiring operation has been reduced over 50 per cent. In all the cases that are of diphtheritic origin, I advise the very early use of antitoxin, for it not only causes the membrane to loosen rapidly and prevents its reformation, but it also reduces the period of wearing the tube and, by using it at this stage of the disease, you may avoid a more serious operation of intubation. It has been verified in a report by the American Pediatric Society, that in 60 per cent. of the cases of laryngeal diphtheria intubation is not required if reliable serum has been used in the first stage of the disease. In a total of 1700 laryngeal cases there were 668 of intubation with 82 deaths, a mortality of 27 per cent.

A few years ago so enthusiastic were some of our physicians over antitoxin that they were loudly claiming that we would have no further need for intubation tubes. Physicians who act on that supposition will sooner or later meet with disappointments in cases where they have relied wholly on the antitoxin to relieve dyspnea and have delayed intubation until it is too late. Again, it should be remembered that diphtheria is not the only disease that is likely to cause stenosis of the larynx, for it may be produced by the pseudomembrane which results from the streptococci or staphylococci as well as the Klebs-Loeffler bacilli. It may also be associated with measles or scarlet fever and be produced by edema resulting from traumas, as by scalds, corrosive substances or direct injury.

No matter how these patients are treated, we are bound sooner or later to come face to face with cases that demand the operation of intubation in order to save life. Again, in some patients who have been injected with antitoxin the membrane fails to come away in from twenty-four to thirty-six hours, and where these patients show symptoms of laryngeal obstruction is would not be safe to wait for the action of the antitoxin, for delay might cause the patient his life. It is better to intubate as soon as signs of stenosis develop; here is one of the situations where an unnecessary operation will do no harm, and therefore the physician need not hesitate as he would before deciding to make a tracheotomy. The reader will at once question the possibility of these two operations being rivals. Having had more or less experience with intubations and tracheotomy in the last five years, I believe that instead of the two operations being rivals they are complimentary, one to the other, each having well-defined indications for its employment. So far as prognosis goes the mortality from intubation is very similar to the number of fatalities following tracheotomy.

Generally speaking, intubation in private practice should be accorded first place because it is less formidable and can be done by the country practitioner alone. Having none of the essentials of an operation and requiring no skilled assistance, being bloodless and requiring no anesthetic, leaving no wound to heal and no subsequent disfiguring cicatrix, parents will much more quickly consent to it than to tracheotomy. The rapidity with which it can be done when once the knack of performing it is acquired makes it essentially the operation of emergency. Since the period of diphtheritic stenosis has been so shortened by antitoxin, tracheotomy as a routine operation is hardly justifiable, at least until the lesser one of intubation has been attempted.

First among the conditions suggesting tracheotomy in preference to intubation I would mention timidity and inexperience in introducing and extracting intubation tubes; next a morbid condition which always contraindicates intubation; again, remoteness of the physician from his patient with the possiblity of stenosis following quickly after the expulsion of the tube; then the possibility of the intubation tube stopping up from membrane which can not be relieved by inexperienced attendants as can be done in tracheotomy, would suggest the latter operation, and tracheal pseudomembrane as well as spasm of the larynx always suggest the cutting operation in preference to intubation.

Regarding the scope of intubation in acute stenosis in adults it can usually be substituted for tracheotomy with advantage; also in acute edema of the larynx in adults, unless complicated, I would consider a few gentle attempts at intubation justifiable. In chronic stenosis the use of the intubation tube has been employed successfully in many cases, and it has proved satisfactory in chronic syphilitic stenosis of the larynx where there has been difficulty in dispensing with the tracheal tube because of granulations growing in the region of the wound, and it has been proved in these cases that the tube can be worn for a considerable time without harm or inconvenience.

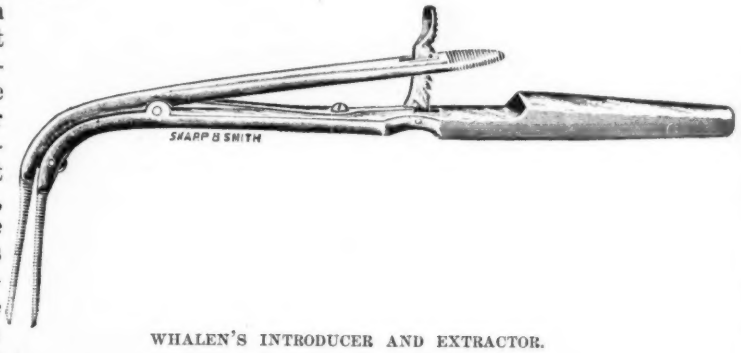
As to the indications for laryngeal intubation, in a word they may be said to be the same as in tracheotomy, namely, restlessness and unremitting dyspnea; do not wait for marked cyanosis for this may be too late a symptom; the earlier the operation is performed the greater the chance for recovery; fortunately in these days the question of operation for euthanasia is rarely raised, but even that may occur. I believe that at the present time many patients with laryngeal obstruction are allowed to die without any attempt at operative interference because tracheotomy is not considered practical under the circumstances and the alternative operation is not sufficiently known. It follows as a necessary corollary that the family physician who treats diseases which directly or indirectly may cause laryngeal obstruction should educate himself to intubate without waiting for skilled assistance, for if the best results are to be obtained in intubation it must be done early and we must not wait to send to a neighboring town for a specialist skilled in this work. I have been called long distances to intubate, and in some cases the necessary loss of time resulted in the death of the patient, the family physician waiting for symptoms such as gasping inspiration or cyanosis before suggesting consultation, and at the same time lessening the patient's chances for a favorable result. It is unfortunate for patients that physicians rely so much on the specialist in these cases. This tendency to neglect the cultivation of the special branches makes the general practitioner become less and less the all-around man, less self-reliant and equal to all emergencies, and also a less valuable member to the profession. All honor to the old-time country doctor of the best type, who, under the greatest disadvantage, was able with equal skill to meet every possible emergency, and was never daunted by any difficulty or danger.

While specialism has unquestionably advanced the science and art of medicine and surgery, it has a great tendency to produce a narrower type of medical men, and this is especially true of the vast numbers of recent graduates who are rushing into specialism before they have properly mastered the relations of the different portions of the field of medicine to others, or the system at large; by devoting their constant toil and energy to one small subdivision of work, they become practically machines and useless in regard to other portions of the same in-

dustry. It is again the old problem of the survival of the fittest. With the proper use of the advantages and with an earnest and high purpose of doing the best possible, the general practitioner can and should use the results of special work in such a way as to enlarge his powers and advance his usefulness.

There is only one way to properly learn the operation of intubation, and that is by the frequent introduction of the tube on the cadaver until one's fingers are thoroughly familiar with the landmarks and the mechanism of the intubation set. In the past two years I have taught over 500 senior students intubation on the cadaver, and I have failed to find a single one who could not, after a few lessons, perform the operation on the cadaver after the technique had been fully explained.

The instruments required for this operation consist of six tubes graduated for children less than 12 years of age. There is a gauge for measuring the tubes to determine the proper size for any given age, an applicator for introducing the tube, an extractor for withdrawing it, and a mouth gag. There have been a great many attempts made toward combining the introducer and extractor into one instrument, and thus doing away with the obturator, which would materially cheapen the cost price of the entire set, the expense being the chief objection to the O'Dwyer instruments. Chief among the intubation sets on the market in which the extractor and introducer have been combined in the same instrument are what are known as the French intubation set and the rational one. After considerable experience, both on the living subject and on the cadaver, I have come to the conclusion that neither of these instruments is practical, especially for extubating, which is the difficult part of the operation, while the insertion of the tube can be done with any instrument providing the beak is not too long to prevent the direction of the end of the tube into the larynx at the proper time. With the French instrument the shortness of the beaks and their being directly at right angles to the handle, compel the operator in extubating to elevate the outer end of the instrument tightly against the incisor teeth, and when this is done the beaks can not be properly inserted into the opening of the tube, more often failing to reach the tube at all excepting in very small children. The rational intubation instruments have been receiving much advertising of late, but our experience on the cadaver, as well as a personal one on a living subject, tells me not to endorse this set, for it is far from being satisfactory. The number of introducers or extractors makes it again as complicated as the O'Dwyer st. Besides the difficulty in remembering the instrument to be used in extracting, it must be borne in mind that the lower blade has to be held by the operator directly on a line with the upper one, otherwise it can not be inserted into the tube; this adds more or less confusion to the operation, and even when this is done properly there is far more difficulty in getting the beaks into the opening of the tube than is experienced with the O'Dwyer extractor. Dr. John Edwin Rhodes has informed me that he has found this rational intubation instrument unsatisfactory as an extubator; indeed, he had even to abandon it recently and resort to the O'Dwyer, with which extubation was made without difficulty. All physicians who have done more or less intubating know that at times the manipulation of the instruments becomes quite difficult, the O'Dwyer set requiring both an extractor and an introducer, the latter being quite complicated, and a trigger-key provided to push the tube off the obturator. This is unnecessary, for the reason that inexperienced operators are liable to concentrate their minds too much on this trigger-key, relieving the obturator from the tube, thus prolonging the time the finger should be in the patient's larynx, while as a matter of fact the tube has finally to be pushed off the obturator with the left index finger. Again, the screw on the introducer is liable to become loose and does not hold the tube firmly in the right position. In the O'Dwyer set the obturator has to be screwed home firmly so as to prevent rotation at the time it is being introduced; while this is being done it not infrequently happens that the major axis of the head does not lie antero-posteriorly, owing partially to failure of adjustment by the maker, but more likely to result from the wear of the thread of the screw. These objections, together with the difficulty of getting new tubes to fit old obturators, caused me one year ago to have the introducer and extractor combined in the same instrument. In this new instrument no adjustment of the screw is necessary; the major axis of the tube is always fore and aft; instead of a screw the tubes are attached by a simple catch arrangement and are detached by the same mechanism.



WHALEN'S INTRODUCER AND EXTRACTOR.

The introducer and extractor is modeled (see illustration) very closely after the O'Dwyer extractor. The lock on the handle of the instrument prevents, in extubation, the tube from dropping back into the larynx or esophagus at the critical time when it is being turned over the base of the tongue, and the beaks, being of proper length, allow the hand of the operator to be in the easiest possible position when operating. From experience in twelve or fifteen hundred intubations on cadavers I feel it safe to recommend this instrument for general work.

The tubes have been modeled somewhat after those made by Ferraud. The top opening has been made funnel-shaped, slanting from the rim toward the center, which greatly facilitates the introduction of the beak when the tube is in the larynx. Another change which has been made is that the lower end has been cut off at an angle of about 45 degrees slanting from right to left, and this facilitates the passage of the tubes between the vocal cords. The hard-rubber metal-lined tubes are much used at the present time, and are in every respect the ideal ones, being sufficiently light to be expelled by the child in case the lumen becomes occluded, and yet requiring an extreme effort on the part of the child for expulsion by coughing.

The operation of intubation is not very difficult, providing one has had previous practice on the cadaver. The tube is selected according to the age of the patient, the length for the different years being indicated on the gauge. The age is not the only guide, for a very large child will often require a tube of larger size than its age would indicate. Two assistants are required, neither of whom need be skilled. The child is wrapped in a

blanket or sheet, which is pinned closely about the neck so that the arms are pinioned, and it is placed in a sitting position on the lap of the first assistant, its head being inclined slightly backward and held by the second assistant, who is standing behind the child. The gag is fixed in position between the left molars, the mouth being opened as widely as possible. The tube is now threaded and attached to the introducer, which the operator holds in the right hand with the fourth finger through the safety thread to keep it out of the way. He now introduces his left finger into the mouth, having previously covered the finger by a cot to prevent inoculation in case the gag becomes displaced and the finger is bitten. The first landmark is the epiglottis. In very young children it is not always easy to feel this owing to the softness of the tissues; in cases where the soft parts are much distorted by the swelling a valuable landmark is the cricoid cartilage, which lies directly behind the epiglottis and the opening of the larynx. Immediately below the epiglottis is the entrance to the glottis, bounded below by the two arytenoid cartilages. It is important for the successful performance of the operation that these cartilages should be clearly recognized. To do this it may be necessary to pass the finger down to its utmost extent. Once the arytenoids are felt the opening of the glottis must lie immediately in front of the pulp of the finger. Keeping the finger then in position, slip the tube quickly into the mouth, pass it along the palmar surface of the finger down over the epiglottis until the ball of the index finger is reached. The handle of the introducer is then slightly raised so as to direct the point of tube into the glottis, and the tube passed on until the collar of the tube is felt. The mechanism for relieving the tube is then put in action with the right thumb and the introducer withdrawn, the tube being kept in position meanwhile with the left index finger. In inserting the intubation tube it is very important to work strictly in the middle line, otherwise you will be likely to get the point of the tube behind the epiglottis and into the cul-de-sac on either side.

The actual operation of intubation, if properly performed, ought not to occupy more than ten or fifteen seconds, and with practice such dexterity is obtained that the entire operation requires but a few seconds from the time the finger is introduced. If the operator fails to pass the tube in at once the finger and tube should be immediately withdrawn to give the patient time to breathe before making a second attempt. It is more surgical to make several gentle attempts than to make one bold one which is almost certain to do irreparable damage. The most reliable indication of the tube being in the larynx is that the breathing at once becomes aphonic, the child coughs and brings up more or less accumulated secretions, while if the tube is passed into the esophagus no change is observed in the respiration. The instantaneous relief of dyspnea afforded by this operation is among the most cheering spectacles which the surgeon ever sees, the patient quickly falls to sleep, the respiration diminishing and the cyanosis rapidly disappearing.

Being satisfied that the tube is really in position the gag is removed and the child put to bed; before doing this, however, I always remove the safety thread. The habit of some physicans of tying the thread over the ear and leaving it for some days is not only inconvenient for the physician but it is also annoying to the patient. The thread should always be immediately removed unless there is some evidence of loose membrane below the tube. To remove it you proceed as for introducing the tube, the index finger holding the tube in position while with the other hand gentle traction is made on the end of the thread after the ends have been severed. The tube should be allowed to remain until the diphtheritic membrane has disappeared from the throat and the expectoration has become thin and viscid. In pre-antitoxin times the average was about seven days, while under our present mode of treatment it has been reduced to from thirty-six to seventy-two hours. The after-treatment of cases of intubation should be directed to the original disease as before operation. The child should not be allowed to lie on its face, for in this position a slight cough might expel the tube. It sometimes happens that the tube is coughed out soon after its introduction, because too small a size has been used. In these cases dyspnea does not return for a few hours so that there is nearly always ample time to notify the attending physician. When called because of dyspnea after operation you should, by digital examination of the throat, satisfy yourself that the tube is really in place, for in the absence of the attendant it may have been coughed up and swallowed. A case of this kind came under my own observation about a year ago. No bad effects occur from this accident, however, for the tubes are always passed through the intestines without difficulty.

Many consider feeding during the period of tubation an objectionable feature, and have greatly exaggerated its danger. The most satisfactory position in which to feed a tubated patient is probably at an angle of 45 degrees, or in a reclining position which allows the liquid nourishment to gravitate over the epiglottis. Nursing infants may continue at the breast after operation, and ordinarily they have but little difficulty in swallowing, while older children often experience considerable difficulty in taking fluids. Another method of feeding consists in placing the patient supine, with the head much lower than the body, and feeding from a nursing bottle or through a tube. In this position fluids can not run into the trachea, but will be forced up the esophagus into the stomach. Feeding is always easier after the first day or two, and patients who wear the tube for chronic disease soon experience no trouble whatever, showing that the difficulty depends more on the inability to co-ordinate the muscles of deglutition when the tube is in place than on mechanical causes. One more hint in the after-treatment in cases of intubation or tracheotomy resulting from diphtheria is, never lose sight of the fact that many of these little patients are in a state of profound systemic poisoning, with the heart muscle very much weakened, and that part of the secret of later success lies in recumbency with appropriate nourishment and heart tonics, for which alcohol and strychnin are specially indicated.

The accidents and complications which may occur during intubation consist chiefly in pushing off the false membrane in front of the tube as it enters the larynx; this I have never known to occur, and we have it on so good an authority as Dr. O'Dwyer himself that he never encountered this accident in his extensive experience with intubation. If on the introduction of the tube there is no reaction to its presence, no violent fit of coughing, we may conclude that the trachea is lined with pseudomembrane and that the chances of the patient will be greatly improved by removing the tube and performing tracheotomy at once. It is therefore always desirable when intubating to have the instruments in readiness for performing tracheotomy should it become necessary.

Blocking of the intubation tube rarely occurs, perhaps because of the tube being straight instead of bent as with

tracheotomy tubes. In cases where the tube has become blocked with mucus it has invariably been coughed up with the obstruction. Bronchopneumonia does occasionally occur after intubation, but not nearly so frequently as in tracheotomy. Hemorrhages may result, but are usually of little consequence, coming as they do from the membrane of the fauces; this accident will always be avoided by the skilled operator.

If the tube selected should be too small, the probable result will be its non-retention, as it may be at once coughed up. If this happens it will be necessary to replace it by a larger one. There is very little danger of the tube dropping into the trachea, because its collar is of sufficient size to prevent such an accident.

Extubation is always a critical period in the treatment of a case by the O'Dwyer method. This procedure is usually more difficult than the introduction of the tube. The child is placed in the same position as for its introduction, and with the index finger of the left hand the operator guides the extractor down to the larynx, where it is felt to strike against the end of the tube. It is then moved about gently, no force being used, until it drops into the opening of the tube. The blade should then be separated and firmly held while the instrument and tube are withdrawn, special care being observed not to relax the pressure just as the tube is being turned out of the larynx, for if this is done the instrument will slip and the tube may either fall back into the larynx or be swallowed. This accident can not happen with the new instrument that I have devised, because once the handles are locked they can not be separated unless done purposely by the operator. Special care should be taken that no pressure is made on the head of the tube in attempting to introduce the extractor, for the tube might possibly be pushed below the vocal cords, an accident that has happened in a few cases. There is, however, a very simple and sometimes quite an effective method of removing the tube, which requires the use of no instruments and which was discovered in Paris by one of the house surgeons at the Hospital des Enfants Malades. This is the method of expression. It is performed thus: The nurse takes the child on her knee, the operator faces the child and with the left hand over the vertex places the right thumb on the trachea, grasping the neck with the fingers. He then simultaneously compresses the trachea backward and upward, and jerks the child's head downward into the nurse's lap, and in the majority of cases the tube drops out without further trouble. This method of expressing the tube I believe to be an unscientific, dangerous and uncalled-for process, and it should only be resorted to in emergency where any procedure to save life would be justifiable.

34 Washington Street.

FUNCTIONALLY GOOD RESULTS IN THE TREATMENT OF FRACTURES AS VIEWED BY SKIAGRAPH AND PHOTOGRAPH.

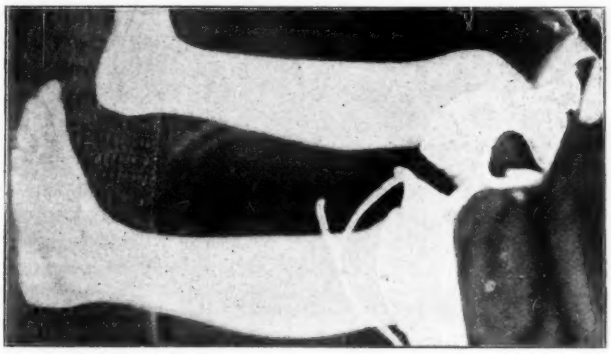
BY B. N. TORREY, M.D.
CRESTON, IOWA.

By functionally good results, I mean those cases where the patient has good use of the part that has been injured; if it be a leg, he walks without a crutch or cane: if an arm, it can be flexed, extended or rotated sufficiently for practical purposes.

In order to more fully demonstrate the difference between the skiagraph and the photograph of functionally good results, I have secured a series of pictures representing fractures of the limbs. These have not all occurred in my practice; a few have been treated by surgeons of reputation. They were not selected with a view of doing honor to the surgeon; had they been, I would have left out the very ones most needed to demonstrate the fact that we may have marked deformity and still have a useful limb.

In offering this collection of pictures, representing the different fractures and their conditions as shown by the skiagraph and photograph, I have no apologies to offer,

believing that they show just what the surgeon of the past has done, and what the majority are doing at the present time. In the examination of these, especially



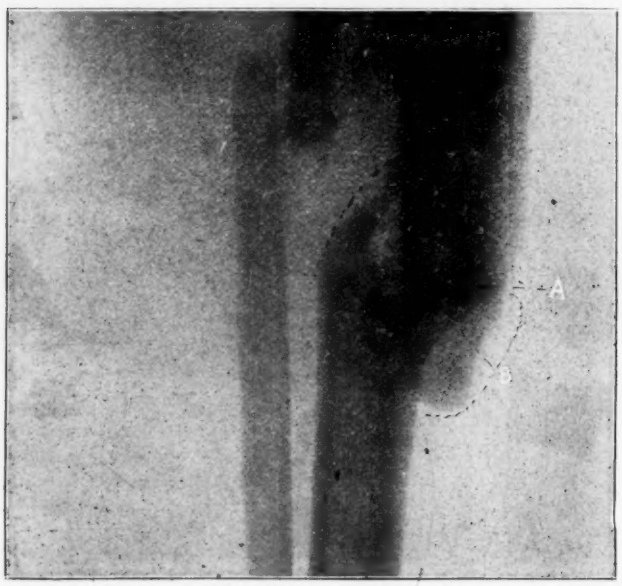
248 and 249.—Fracture of leg. Four months after injury. Functional results perfect.

the skiagraphs, the first impression will be as mine was: that there must be something radically wrong in the procedure that would permit such departure from the proper anatomic appearance of the bones. Any surgeon who will look with patient honesty for an ideal re-

*Read before the Iowa State Medical Society, Des Moines, May 16-18, 1900.

sult, among his victims of the past, may look without finding the object of his quest, if such ideal involved the notion of exact anatomic alignment of the fragments; especially will he be disappointed if he expects such perfection in cases where the fracture was oblique or the fragments separated. He will be surprised to find that each and every one will present a deformity, more or less, of some kind, when viewed by the X-ray.

The results of a transverse green-stick fracture, or in those cases where the fragments have not been displaced, will show, from mechanical reasons only, angular or rotatory deformities; but in those fractures, buried as they are in excited muscular tissues, the obtaining and maintaining of exact anatomic relations would be an accident. It will be observed, in some of the pictures presented as illustrating this paper, that the results as viewed by photographs are all that could be desired; and others, while showing some deformities, are still within the limit of what would be considered good functional results. View the same cases by the X-ray, and it will be found to present angular rotatory and the overriding deformities, or a combination of any two or more—depending to a great extent on the bone fractured, the

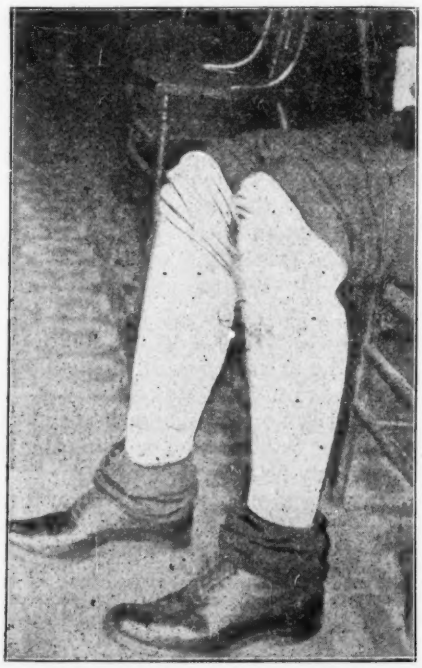


254.—Compound fracture of leg 8 months after injury. Functional result perfect. There is no shortening. The *apparent* overlapping of fragments is due to the callus.
A.—End of fragments. B.—Callus which gives appearance of overlapping.

location of the fracture, whether a leg or an arm, a simple, compound, or compound comminuted, and the cause producing it. I am convinced that a careful, comparative study of this kind, made by any surgeon on his own cases, will smash some of his idols, will be conducive to humility, and make him cautious about critical remarks concerning the work of his fellow practitioner.

I would ask especial attention to No. 254, a male, aged 30, and weighing 190 pounds. He jumped from a spring-wagon, producing a compound fracture of the tibia, and simple fracture of the fibula. At this time, eight months after injury, he walks without a crutch or cane, with a very little limp, and he gets off and on trains in the capacity of a traveling man. Represented by the photograph and examined by manipulation, one would consider his a splendid result, all things considered, and I was especially satisfied with it until it was skiagraphed.

It would not take the search-light of an X-ray to find a marked deformity in Case No. 258, a male of 200 pounds, who has quite a limp. He plows corn and does other work pertaining to the farm. The injury was caused by getting his foot caught in a hay-press, produc-



Photograph 254.

ing a compound comminuted fracture of both bones to the extent of leaving spiculæ of bone sticking to the hard wood of the press. Only his persistent demand that it should not be amputated is the reason that he has

Photograph 254.

it in the place of a wooden one. Certainly a wooden one would be more symmetrical if not so handy. This case was treated in the early days of antiseptic surgery.

No. 248, a boy, 8 years old, was injured by a horse

stepping on his leg, producing a simple fracture of both bones. As shown by the photograph and by manual examination, one would think we had an ideal result, yet by the skiagraph we find not only an angular deformity, but a partial displacement of the individual fragments.

Nos. 265 and 266 represent a fracture of the femur and humerus, following a railroad accident in which the leg was lost below the knee. This case was treated in a Kansas City hospital, and by a well-known surgeon, but under some disadvantages, as all the injuries occurred at the same time.

258.—**Compound comminuted fracture of leg. Twelve years after injury. Functional result good enough that patient has but a slight limp, and does general farm work.**

I would call especial attention to Nos. 290 and 291, which present a photograph and an X-ray picture of a compound fracture of the leg, treated by a surgeon in Kansas, eighteen months ago. The X-ray findings are good, the alignment being practically perfect, while on the other hand the photograph shows marked rotatory deformity. The patient has a stiff ankle and a limb that is far from being functionally perfect.

The examination of fractures and the results obtained, by means of the X-ray, have been almost entirely confined to the profession, and it is a question of very grave importance to each individual member. To-day you are criticising my ability as a surgeon through the representation of these pictures. To-morrow the general public will expect and demand the same privilege of looking over your work, and from the same standpoint. What will their criticism be? Have they not been led to believe, when the result from external appearance seems good and they have good use of the parts, that the union of the fragments was as smooth and complete as a cabinet-maker's splice? I do not refer to those severe crushing injuries—where they could see for themselves or where the astute surgeon has explained the probable results, if not allowed to amputate, but to those of more frequent occurrence, simple fractures of the leg or arm.

Through my investigation of fractures occurring in the limbs, with the fluoroscope and skiagraph, I have come to the following conclusions: 1. That both the surgeon and the public have believed they were attaining more perfect anatomic results than it is possible to get in the great majority of cases. 2. That the surgeon

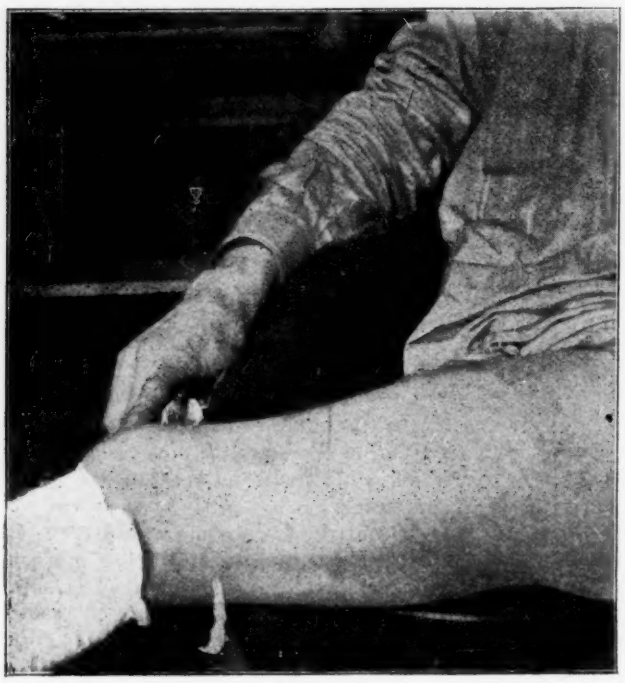
Photograph 258.

should realize and the public be taught that the getting of a good functional result without deformity, as viewed by the unaided senses, constitutes the practically ideal, and that X-ray cosmetics is a refinement beyond the reasonable hopes of this day and age. 3. That we must not expect an ideal result in oblique or any other fracture where the fragments have been separated. 4. That it would be impossible to correctly coaptate a fractured bone buried in muscular tissues, and recognize it, without the use of the fluoroscope. 5. That very few, if any, oblique fractures of the larger bones of the leg or arm are treated without shortening and other deformities. 6. That the public has the impression that all fractures are transverse and the surgeon should always procure an end-to-end approximation. 7. That angular deformities alone can be corrected or prevented by lateral splints. 8. That the only way we can be sure of a correct reduction would be under the fluoroscope, with an anesthetic and superextension, or by incision, with

mechanical fixation of the fragments. The use of the fluoroscope would be impossible in many cases, and the indiscriminate practice of incision would do more harm than good. 9. That oblique fracture of the tibia, when both bones are broken, is one of the hardest of fractures to treat without marked deformity—especially if it be compound or produced by indirect violence—from the fact that there is not room for traction; the stronger muscles are located on one side of the bones; there is an element of torsion in the force that produced the fracture. 10. That extension would give us less shortening, less deformity and better results in fractures of the long bones; but too much extension and too long contin-

265.—Fracture of humerus (Left) 14 months after injury. Functional result good.

266.—Fracture of femur 14 months after injury. Result of railroad accident. Other injuries necessitated amputation of leg. Doubtless making proper extension impossible.



Photograph 265.

Photograph 266.

ued, would interfere with the physiologic condition of the joints, while stricture of the tissues between joints, sufficient for traction, would interfere with the circulation, and might produce blister, ulceration and non-

290 and 291.—Compound comminuted fracture of leg, 18 months after injury. Operation to encourage union was done 5 months after injury; another 11 months after injury. Result: good *apparent* alignment as seen by X-ray, but there is marked rotary deformity, ankylosis of ankle joint and fixation of toes in position of extreme flexion.

union. 11. That weight of the limb, such as would result from the too early use after fracture of the leg, would increase or might produce deformity, in all cases except those having end-to-end approximation, and that without perceptible inconvenience or pain to the patient. 12. That a skiagraph picture may exaggerate a deformity, but it might be hard to make an interested party

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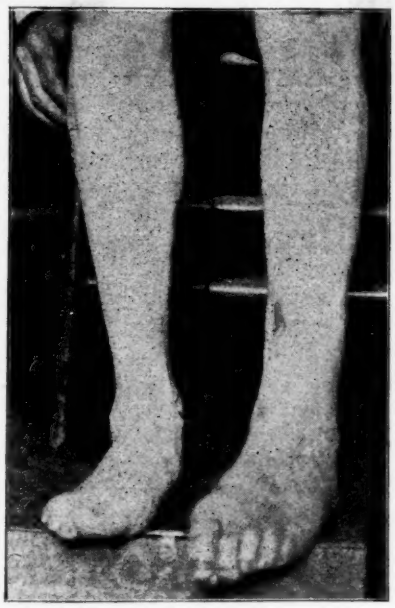
believe it. 13. That an X-ray picture, if interpreted according to our former notion, or the ideas now held by the general public, would be unjustly exacting for legal purposes. 14. That we may expect a mechanical device



Photograph 290.

Photograph 291.

for fixation independent of muscular tissues; whether it is foreshadowed by Dr. Parkhill's clamps, the peg, screw or some other contrivance, no one can tell. 15. That

every up-to-date surgeon should have access to or own an X-ray machine—a portable one would be very handy. 16. That the fractures viewed and presented in illustrating this paper, fairly present the average results obtained by the past and present methods of treating fractures. 17. That the application of the X-ray to surgery, while it presents many advantages, may also bring annoyance; but since it is here and here to stay, it behooves us to make a careful study of its findings in order that while we enjoy the advantages, we may avoid the injury that might arise from its misapplication, and prevent its being made to bear false witness through misinterpretation of its findings.

I wish to acknowledge my obligation to Dr. F. E. Sampson, of Creston, who has prepared the skiagraphs and photographs used in illustrating this paper.

ON REMOVAL OF THE CERVICAL SYMPATHETIC IN GLAUCOMA AND OPTIC NERVE ATROPHY.*

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ST. LOUIS, MO.

I propose to consider the surgery of the cervical portion of the great sympathetic nerve in certain ocular diseases. European oculists and surgeons have performed sympathectomy for glaucoma and exophthalmic goiter. I have gone further, and in one instance removed the superior cervical ganglion for simple atrophy of the optic nerve. I have performed sympathectomy four times up to July 20, 1899. First the cases will be reported; then the conclusions will be drawn.

CASE 1.—EXCISION OF SYMPATHETIC FOR GLAUCOMA ABSOLUTUM.

Mrs. B. S., aged 36, has had pain in and around the right eye for two months, and examination showed vision in this eye reduced to light perception; tension +3, and the pupil widely dilated. The anterior chamber was shallow, the cornea cloudy and slightly anesthetic, the media slightly cloudy, still allowing the fundus to be seen. The episcleral vessels were enlarged. Circumcorneal injection was present and the optic nerve cupped. A diagnosis of chronic irritative glaucoma was made. The left eye presents immature cataract, and vision in this eye is 20/70.

Knowing of the flattering results obtained by Jonnesco and others, by excision of the superior cervical ganglion in absolute glaucoma, I explained the operation to the patient, and obtained permission to operate. On May 15, 1899, the patient was anesthetized, chloroform being employed. An incision four inches in length was made on the right side downward from the mastoid process, extending along the posterior border of the sterno-cleido-mastoid muscle. The external jugular vein was cut and tied. The sterno-cleido-mastoid was then separated from the trapezius muscle, and the spinal accessory nerve was cut. A deep dissection was then made, exposing the carotid sheath. This was opened to enable us to locate the pneumogastric nerve beyond question. The carotid, internal jugular vein and pneumogastric nerve were then pulled forward, enabling us to see the rectus capitis anticus major muscle, on which the superior cervical ganglion rests. Tearing through the fascia the ganglion was found and stripped. The ganglion was then cut high up with curved scissors and all its branches severed. About one inch of the trunk of the sympathetic below the ganglion was removed. The wound was closed with interrupted sutures and the neck placed in a plaster cast. The time required for operation was fifteen minutes, and immediately after it was noticed that the right eye was suffused with tears, the right conjunctiva much injected and the right nostril moist. The intra-ocular tension was +2. The patient slept well all night, without medicine, being free from pain for the first time in over two months. Tension had steadily decreased to +1.

On May 16, slight ptosis was noticed on the right side. This symptom is yet present. On May 19 the circumcorneal injection was much less; the conjunctival hyperemia and lacrimation were still present, while the ptosis was slightly increased and tension was +1.

At the present date—July 23, 1899—this patient has no pain. The retinal arteries are increased in size. Tension is +1. Vision has increased from light perception to ability to count fingers at three feet. The conjunctival injection which followed the operation has disappeared; the optic nerve has a color more approaching the normal. The ptosis is less.

This was the first sympathectomy made in America for glaucoma.

CASE 2.—DOUBLE SYMPATHECTOMY FOR GLAUCOMA SIMPLEX.

Miss M. E., a German, aged 43, was sent to me on June 14, 1899. For two years sight had been failing, until at this time vision was as follows: R. E. = 0; L. E. = light perception. Tension was +3. Both optic nerves showed marked cupping of the disc; the vessels were pushed to the nasal side. She stated that she had never had pain in the eyes and had not consulted an ophthalmic surgeon.

I advised her to submit to an excision of the left superior cervical ganglion; she consented, and on June 15 the operation was performed by myself, assisted by Dr. E. C. Renaud, at St. Joseph's Sanatorium, in the presence of Drs. J. C. Murphy, A. R. Kieffer and S. A. Grantham. The operation was difficult owing to the abnormal position of the vagus nerve. This was outside of and external to the carotid sheath, and was much smaller than normal; it was not larger in diameter than the head of a pin. It was identified by irritating it and watching the effect on the heart. The superior cervical ganglion was removed and one-half inch of the trunk of the sympathetic below. Shortly after the operation there was lacrimation, ocular congestion and contraction of the pupil on the corresponding side. On the second day she counted fingers at 2½, and on the third at 3½ feet. Slight ptosis was present.

She left the hospital on the eighth day. At this time she counted fingers at four feet. There was only slight if any reduction of tension during the eight days she was in the hospital. In counting fingers she saw the nasal side of the retina—temporal field. I did not see her again until June 30, and she was then counting fingers at five feet. Tension on that day was normal. She had light perception in the right eye.

On July 16, I excised the right superior cervical ganglion, without difficulty, and on July 7 she counted fingers at seven feet with the left eye, and could see the hand at four inches with the right. I examined her on July 20, when vision remained the same, the tension of the right eye was +1, and of the left +2. She was well pleased to have the small amount of vision she possessed.

*Rerad before the Ninth International Ophthalmological Congress, at Utrecht, Aug. 17, 1899.

CASE 3.—SYMPATHECTOMY FOR OPTIC NERVE ATROPHY.

T. J., aged 46, an inmate of the St. Louis City Hospital, a laborer, was admitted on account of blindness. There was no history of syphilis, rheumatism, nor any systemic disease. The patient was of limited mentality. No history of his family could be obtained. He claimed to have had good health all his life, with the exception of an attack of malarial fever several years ago. The patient had been a moderate drinker of alcoholic beverages. In appearance he was robust, and he complained only of loss of vision, which, in the left eye had been failing for eleven months, in the right for seventeen weeks, according to his statement. Until seventeen weeks before this he could see enough with the right eye to get around. Since then vision had steadily declined until he had light perception only—and this only apparent when light was concentrated on the eye by the ophthalmoscopic mirror. Vision of the left eye = 0.

The pupils were widely dilated. The ophthalmoscope showed, in the right eye, a white disc, particularly on the temporal side; the arteries slightly reduced in caliber, veins normal. There was shallow, atrophic cupping of the nerve head. The retina and choroid were normal, the vitreous and lens clear. The left eye showed a disc of a dead white color throughout the whole area, arteries very small, atrophic excavation pronounced, veins reduced in caliber, and choroid normal. The macula was not visible in this eye, owing to the much reduced blood-supply. The vitreous and lens were clear. Vision was as follows: R. E. = perception of concentrated light. L. E. = 0.

Diagnosis: R. E. = optic nerve atrophy. L. E. = complete atrophy of optic nerve and retina.

Treatment: Resection of the right superior cervical ganglion of the sympathetic was done. The operation was followed by conjunctival congestion, lacrimation and contraction of the pupil, slight ptosis and hypotonia.

No appreciable change in the patient's vision followed, and ophthalmoscopic examination made two weeks after operation showed no change in the appearance of the fundus, except that a cilioretinal artery in the upper part of the disc had doubled in caliber.

So far as I know, Case 3 is the first instance in the history of medicine of an excision of the superior cervical ganglion, or of any part of the sympathetic system, for the relief of optic nerve atrophy. Although the operation was not of benefit in this particular instance, yet I am not willing to concede that it will prove valueless in cases of non-inflammatory atrophy in which vision is not entirely lost. In truth, I expect it to prove beneficial in such cases, sufficiently often to justify the procedure.

I was led to make this experimental operation for several reasons: 1. The use of glonoin is often followed by an improvement in vision in cases of simple atrophy of the optic nerve. 2. Glonoin enlarges the retinal vessels, as has been proved by ophthalmoscopic examination. 3. There is no question that in glaucoma simplex—a disease in which there is an atrophy of the optic nerve—improvement in vision follows sympathectomy. 4. Excision of the cervical sympathetic is followed by an increase in the blood-supply of the orbital contents.

Microscopic Appearance of Section of Normal Superior Cervical Ganglion.

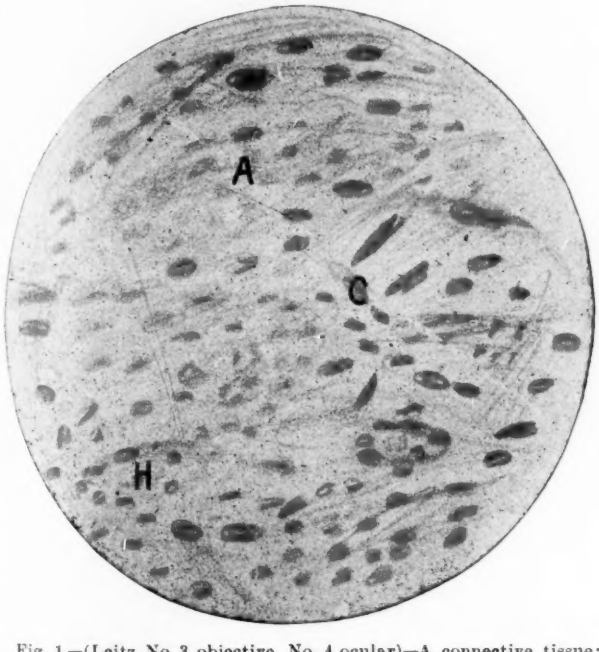

Fig. 1.—(Leitz, No. 3 objective, No. 4 ocular)—A, connective tissue; H, blood vessel; C, nerve cell.

Microscopic Appearance of Section of Normal Superior Cervical Ganglion.

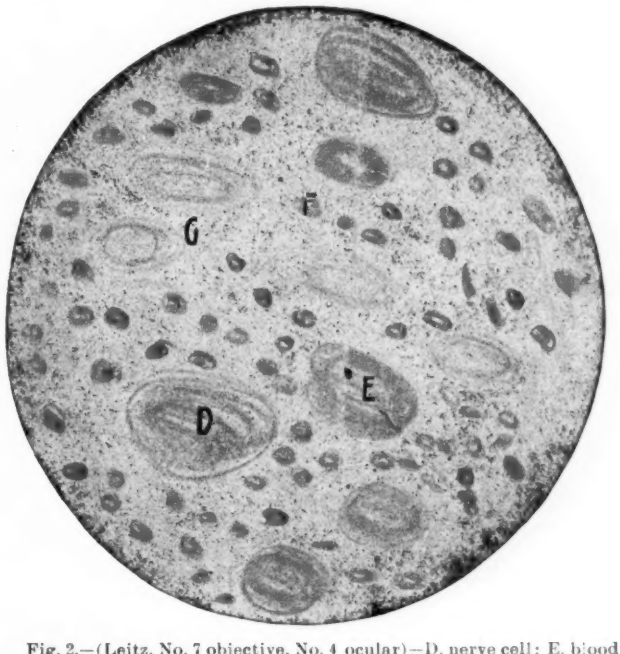

Fig. 2.—(Leitz, No. 7 objective, No. 4 ocular)—D, nerve cell; E, blood vessel; F, connective tissue; G, nerve fibers.

PATHOLOGIC CHANGES IN THE EXCISED GANGLIA.

The microscopic examination of three of the excised ganglia was made by my friend, Dr. Carl Fisch, of St. Louis. The specimens were those from Cases 1, 2, and 3. Of the two ganglia removed from Case 2, only the first one—the left—was examined.

Transverse and longitudinal sections of the three specimens were studied microscopically, by means of a great number of different staining methods. Owing to the method by which the ganglia had been preserved—weak formalin solution—the employment of the Golgi—Marchi—and the more delicate Nissl stains was rendered impossible. In general it may be said that the pathologic changes found were the same in the three cases, although a little less pronounced in No. 2 than in 1 and 3.

Most striking of all was a very marked hyperplasia of the connective tissue, which in some places resulted in dividing up the ganglion into small groups of nervous elements separated by broad bands of fibrous elements.

The walls of the vascular structures showed decided sclerosis; the connective-tissue sheaths of the ganglionic cells were much increased in thickness. In Case 1, small foci of round-cell infiltration were seen in this hyperplastic growth, of an inflammatory character. No plasma nor mast cells could be demonstrated.

The ganglionic cells were markedly pigmented. Together with a number of cells normal to all appearance there were great numbers showing different stages of degeneration. As a rule the nucleus, besides having lost part of its peculiar staining property, had assumed the parietal position; the nucleus was reduced in size or even missing in a large percentage of the cells. While in some cells the chromatic elements were well preserved, in others the process of chromatorhexis and chromatolysis could be followed up through all of its stages. Only comparatively few cells were seen showing the normal dendriform processes; very often the processes were short, ending bluntly, or they had even disappeared altogether. The general peripheral network of processes was much reduced in volume and compressed by the pressure of the

Microscopic Appearance of Section of Superior Cervical Ganglion in Chronic Irritative Glaucoma (Case 1).

Fig. 3.—(No. 4 ocular, No. 3 objective, Leitz)—A, nerve cell; B, nucleus of connective; C, connective tissue; D, vein; E, small capillary.

connective-tissue formation. Only very few medullated fibers were seen. Unfortunately it was impossible to study their structure with the Marchi method.

The general pathologic aspect was that of a decided sclerosis, originating in inflammatory processes going on in, and starting out from, the walls of the vascular structures. The changes of the nervous elements were most likely not idiopathic, but due to pressure and inhibited nutrition.

The plates accompanying this paper have been made from drawings of sections of superior cervical ganglia.

TECHNIQUE OF THE OPERATION.

The ordinary precautions for surgical cleanliness are to be observed, and general anesthesia employed. The incision should be made along the posterior border of the sterno-cleido-mastoid muscle, starting at the mastoid process and running downward to within an inch of the clavicle. The sternomastoid is separated from the adjacent muscles, the spinal accessory nerve cut and the carotid sheath reached. This dissection is made with the fingers. The carotid sheath should always be opened in order to locate the pneumogastric nerve. I consider this very important because: 1. The nerve is sometimes outside the sheath, as happened in my second case in which the pneumogastric was much atrophied and was external to the sheath. 2. Differentiation of the cervical sympathetic from the vagus is sometimes difficult. Often, in operating on the cadaver, I have found both nerves enclosed in the same fascia. It is needless to say that excision of the vagus instead of the sympathetic would not only defeat the object of the operation, but would add a serious complication. Differentiation of these nerves after opening the carotid sheath is not usually difficult, for in working upward the operator comes upon the ganglionic expansion of the sympathetic. The ganglion is seized with forceps and stripped. Its branches are cut first, then the cord passing below is severed, and lastly the ganglion is cut above, as high as possible. It is best to use curved scissors and to have the finger under the ganglion while traction is made, thus cutting on the finger and avoiding injury to the underlying structures.

Microscopic Appearance of Section of Superior Cervical Ganglion in Chronic Irritative Glaucoma (Case 1).

Fig. 4.—(No. 4 ocular, No. 7 objective, Leitz)—A, nucleus of connective tissue; B, nerve cell; C, connective tissue; D, vein.

If the middle ganglion is to be removed, it will be best to excise it first and then work upward. If the entire chain of the sympathetic is to be removed, as is done for epilepsy, and as is now advised in exophthalmic goiter by Jonnesco, the operation is one of great difficulty owing to the location of the inferior ganglion. This is situated near the neck of the first rib. One of my friends, who is a skilful surgeon, in removing this ganglion ruptured the vertebral artery near its origin and was obliged to tie the subclavian to check the hemorrhage. After the latter has ceased the wound is closed with superficial sutures. The hemorrhage in removal of the superior ganglion is usually trifling, only a few small vessels being cut. The external jugular vein was cut in my first case, but not in the others. The patient leaves the hospital on the eighth or ninth day.

Jonnesco's[1] method, according to his latest communication on the subject, is different. He always employs the premastoid route where only the superior ganglion is to be removed, reserving the postmastoid for the excision of the entire chain. The carotid sheath is split,

the internal jugular vein and sternomastoid drawn outward by a retractor; a second retractor draws the vagus and internal carotid inward. In the space made the superior ganglion is found. The deep vertebral fascia is opened, all the brances of the ganglion isolated and cut by blunt, curved scissors; when this has been done the ganglion is attached only by nerve strands above, a strong pull is made and the ganglion gives way. The excision is then completed by cutting the inferior strands. In closing the wound, he uses both deep and superficial sutures.

He mentions a transient dysphagia and pain in the craniomandibular joint as occurring after this operation.

EFFECTS OF EXCISION OF SUPERIOR CERVICAL GANGLION.

The effects of removal of this ganglion are immediate and remote: The immediate are relief of pain, lacrimation and conjunctival injection, together with a discharge from the corresponding nostril, unilateral sweating, and contraction of the pupil. Often there is an immediate reduction in intra-ocular tension. These effects are noted within five minutes after the excision.

Microscopic Appearance of Section of Superior Cervical Ganglion in Glaucoma Simplex (Case 2).

Fig. 5.—(No. 4 ocular, No. 7 objective, Leitz)—A, vein; B, connective tissue; C, nerve cell; D, small capillary; E, larger capillary; F, nucleus of connective tissue cell.

The remote effects are ptosis, which appears on the third or fourth day, improvement of vision, and in some instances a tardy contraction of the pupil and a tardy reduction of the intra-ocular tension. To these there must also be added a slight sinking of the eyeball into the orbit, and a feeling of heaviness in the head. What I have just written applies particularly to cases of glaucoma.

In exophthalmic goiter, after the excision of the ganglia, the exophthalmus and tachycardia are said to improve almost immediately and a reduction of the goiter soon follows.

Although Jonnesco speaks of the immediate reduction of the intra-ocular tension, yet this does not always occur. In my second case, at the end of eight days the tension was +2. On the sixteenth day the tension was normal. In my first case reduction of the tension was immediate. The relief from pain in the first case was immediate and lasting. This patient had not been free from pain for two months previously. The slight ptosis following sympathectomy is to be attributed to paralysis of Müller's muscle. Sinking of the eyeball is no doubt due to paralysis of the unstriped peribulbar fibers found in Tenon's capsule. Contraction of the pupil is usually an immediate result; it may, however, appear tardily. Thus in my first case the pupil was unchanged until the fourth day after the operation; and it did not become at any time as markedly contracted as in the other two patients. In the third case—that of optic nerve atrophy—the pupil was markedly contracted within five minutes after the excision.

The lacrimation, conjunctival injection, and nasal moisture are transient symptoms which are usually absent after the first day.

In this connection it is interesting to note that Mr. Jonathan Hutchinson, as early as 1866, recognized many of the ocular symptoms of paralysis of the cervical sympathetic, and wrote a paper thereon.[2]

HOW DOES EXCISION OF THE CERVICAL SYMPATHETIC REDUCE INTRA-OCULAR TENSION?

This is a question difficult to answer—difficult for the reason that we are not sufficiently acquainted with the

Microscopic Appearance of Section of Superior Cervical Ganglion in Simple Atrophy of the Optic Nerve (Case 3).

Fig. 6.—(No. 4 ocular, No. 7 objective, Leitz)—A, connective tissue; B, nucleus of connective tissue; C, nerve cell.

physiology of the production of aqueous humor under normal surroundings. Panas and Duvigneaud have assumed rightfully that "If the nervous mechanism of intra-ocular secretion or, to speak without hypothesis, the action of the nervous system on intra-ocular tension can be known, the pathology of glaucoma will be cleared up, iridectomy will be explained, and perhaps a new and scientific basis for the treatment of glaucoma will be established."[3] Many observers have sought to solve the problem. Donders attributed the hypertension to a neuro-secretory cause and believed the trigeminus to be the agent of excessive secretion. He held that section of the trigeminus should relieve intra-ocular tension, while section of the cervical sympathetic could have no particular influence.

His views were overthrown by experiments made by Wegner in 1866, on rabbits. By means of manometers placed in the anterior chamber, he sought to record variations in the intra-ocular tension. He proved to his own satisfaction that the trigeminus takes no part, while section of the cervical sympathetic produces hypotonia,

and irritation of its upper end, and causes hypertonia. He held that section of the cervical sympathetic enlarges the blood-vessels of the eye; the blood then flows under reduced pressure, and intra-ocular secretion is lessened. Almost identical results were obtained by Adamück—1866-68—who experimented on cats.

Von Hippel and Gruenhagen believed that the cervical sympathetic contains vasoconstrictor fibers for the eye. Their experiments were made on cats and dogs. They found that irritation of the upper end of the cervical sympathetic causes in the cat a hypotonia, while its extirpation increases intra-ocular tension. While, according to Wegner, the hypotonic action proceeds from the enlargement of vessels caused by cutting the cervical sympathetic, and the contraction of the blood-vessels caused by the irritation of the nerve causes a hypertonic action, the contrary view is held by Adamück, Von Hippel and Gruenhagen.

However this may be, there is no doubt that the trigeminus plays no great part in the production of ocular tension. Furthermore, the inefficiency of Bedal's operation—stretching the nasal nerve—is explained by the fact that it is the cervical sympathetic, and not the trigeminus, which influences intra-ocular tension.[4]

Jonnesco believes that the ocular sympathetic fibers from the brain and spinal cord pass through the superior cervical ganglion; permanent or intermittent irritation of these is accompanied by dilatation of the pupil, narrowing of the small intra-ocular arteries, contraction of the peribulbar muscular fibers, and probably an increased action of the elements which produce the aqueous humor. "As a matter of fact," says Jonnesco, any increase of the blood-pressure will produce a permanent or intermittent narrowing of the arteries and cause the extravasation and increase in aqueous humor; then it is probable, although not definitely settled, that a permanent or intermittent irritation of the excito-secretory fibers is followed by an increase in the secretion of aqueous humor; the permanent or intermittent dilatation of the pupil pushes the iris into the iris-angle, closes the canals of the filtration zone, and hinders or prolongs the exit of aqueous humor from the eye; the permanent or intermittent contraction of the unstriped peribulbar muscular fibers closes the efferent veins of the eyeball, and hinders the venous circulation of the eye—hence the dilatation of the intra-ocular veins.

He holds that excision of the superior cervical ganglion destroys all vasoconstrictor fibers of the eye. The arteries relax, the blood-pressure is lowered, and extravasation is reduced. This operation destroys the excito-secretory fibers, thus limiting the amount of aqueous produced. The fibers which dilate the iris are destroyed, hence the contraction of the pupil reopens the iris-angle and removes the obstacle to the outflow of aqueous. The nerve-fibers supplying the unstriped muscular apparatus, contained in Tenon's capsule, are destroyed, hence the pressure on the efferent veins is removed and ocular circulation is re-established.

Jonnesco believes that the starting-point of the nervous derangement producing glaucoma is central: "When one removes the ganglion the point of origin of the influence will not be removed but the communication between this center and the eyeball is destroyed."

Regardless of the differing views of physiologists concerning the mechanism of the reduction of ocular tension, based on experiments made on the lower animals, there can be no difference of opinion concerning the effect of excision of the superior cervical ganglion in the human subject. The operations made by Jonnesco, and others on the Continent, and by myself in America, prove that removal of the superior cervical ganglion causes a marked reduction of intra-ocular tension in glaucomatous cases. That the same effect occurs in eyes with normal tension is evident from my third operation—that done for optic nerve atrophy.

EXTENT OF SYMPATHECTOMY IN DIFFERENT DISEASES.

Up to the present time excision of the cervical sympathetic has been performed for the following diseases: epilepsy, exophthalmic goiter, glaucoma and optic nerve atrophy. The question naturally arises: How extensive an operation is necessary in these affections? This I will attempt to answer:

In epilepsy it is necessary to excise the entire cervical chain on both sides for the reason that, according to Jonnesco's theory, it is necessary to convert a state of cerebral anemia—which he assumes is the condition in epilepsy—into one of cerebral hyperemia. Since the carotid plexus is formed by branches from the superior ganglion, and the vertebral plexus arises from branches which have their origin in the inferior cervical ganglion, it is evident that the entire cervical sympathetic must be removed.

In exophthalmic goiter, although Jonnesco in his first operation excised only the superior and middle ganglia, he now believes it necessary to remove the inferior as well, for this reason: from the superior ganglion the ocular fibers arise; from the inferior the vasodilator, cardiac-accelerator, and, probably, the secretory nerves of the thyroid gland. If eye, thyroid and cardiac symptoms are to be relieved the entire chain must be excised.

In glaucoma removal of the superior ganglion alone is necessary. All of the sympathetic fibers of the eye, with the exception of those which pass directly from the cerebrum by way of the trigeminus, are connected with the superior ganglion.

In optic nerve atrophy, if it should be proved that non-inflammatory atrophy of the optic nerve can be improved by sympathectomy, removal of the superior ganglion alone will be necessary, for reasons already given.

If the glaucoma is unilateral, it is necessary to remove only the corresponding ganglion.

HISTORY OF SYMPATHECTOMY.

In 1889, Alexander, of Edinburgh, resected the superior ganglion on both sides. In 1892 Jacksh resected the vertebral plexus and cut the cord connecting the middle and inferior ganglion. The third operator was Kummel, who excised the superior ganglion on one side only. In 1893 Bojdanik made a bilateral resection of the middle ganglion. In 1896 Jaboulay made a bilateral section of the sympathetic cord, above and below the middle ganglion. These operations were all made for epilepsy.

In regard to exophthalmic goiter, Jaboulay made a simple section of the sympathetic early in 1896. In September of the same year Jonnesco excised the superior and middle ganglia.

Jonnesco was the first, in 1896, to do a bilateral resection of all three cervical ganglia, though it is claimed by a Polish surgeon, Baracz, that he proposed the same in 1893. To Professor Jonnesco furthermore belongs the credit of having first excised the superior ganglion for glaucoma in September, 1897.

Ball, of St. Louis, was the first to remove the superior cervical ganglion for optic nerve atrophy. The date of this operation was June 24, 1899.

Terrier, Guillemain and Malherbe, in their "Chirurgie du Cou," 1898, were among the first to give the surgery of the sympathetic a place in a text-book.

Among those who have operated on the cervical sympathetic for the relief either of glaucoma or exophthalmic goiter, or both, are Abadie,[5] Réclus,[6] Gerard-Marchant,[7] Chauffand and Quénu,[8] Jeunet,[9] Bled,[10] Ball, Renaud, and Bartlett.[11]

Panas is opposed to sympathectomy in glaucoma.[12] He reports seeing a patient in whom, three months after the operation, vision was still declining.

Francois-Frank,[13] at a meeting of the Paris Academy of Medicine, held May 23, 1899, spoke of the effect of sympathectomy on the circulation of the thyroid gland, brain, and eyes, and on the heart. He believes that the operation can easily produce good results.

Doyon[14] has described the trophic changes produced in the rabbit by excision of the cervical sympathetic.

CONCLUSIONS.

From a study of the cases of sympathectomy made by Jonnesco and others, and from the observation of my own cases, I offer these conclusions:

1. Excision of the superior cervical ganglion is a most valuable procedure in glaucoma.

2. It is of more value in glaucoma simplex than in inflammatory glaucoma.

3. In inflammatory glaucoma, on which iridectomy has been done without benefit, excision of the superior cervical ganglion should certainly be tried.

4. In cases of absolute glaucoma with pain, sympathectomy is to be tried before resorting to any operation on the eyeball.

5. In cases of simple optic nerve atrophy, sympathectomy may possibly be beneficial if done before vision is entirely lost.

6. In cases of exophthalmic goiter, which do not improve under hygienic medicinal and electric treatment, excision of the cervical sympathetic on both sides is to be advised.

7. In unilateral glaucoma excision of the sympathetic ganglion is to be done only on the corresponding side.

8. In the hands of a careful operator, excision of the superior and middle ganglia is a safe operation but removal of the inferior ganglion can be done safely only by the most skilful surgeons.

9. The postmastoid route is to be preferred in excision of any part, or all of the cervical sympathetic.

10. The fact that glaucoma is improved by sympathectomy and the finding of pathologic changes in the excised ganglia suggest the conclusion that this affection is due either to a permanent irritation of the cervical sympathetic, or to an irritation located elsewhere and transmitted by means of the cervical sympathetic.

I wish to extend my thanks to Drs. E. C. Renaud and Willard Bartlett for valuable assistance in the preparation of this paper; to Dr. Carl Fisch for the pathologic report; and to Dr. R. B. H. Gradwohl for the illustrations.

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THE DOCTOR IN THE PUBLIC SCHOOLS.*

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Shall we put a well-educated physician in each of the public schools? is a question; and if not why not? Let it be a physician who will make a thorough study of the pupils, classify them with reference to their physical and mental development and aptitude, both for study and play.

Without bone and muscle and without a plentiful supply of wholesome blood, the brain and nervous system can not long remain intact and properly perform their respective functions. The daily expenditure of brain energy and nervous force must necessarily have its corresponding recuperation by sound sleep, proper food, and wholesome exercise in the open air. This applies to all classes and conditions of ages, and especially to school children.

The excellence of the public school system everywhere is conceded. It is apparently almost perfect. The present system of education is broad, comprehensive, and fulfils the order of discipline in the extreme. It teaches effectively and well. Its superintendents, principals and splendid army of teachers are all, without exception, thorough. The youth of the land are yearly made better and better by the unselfish devotion and self-sacrificing efforts of the teacher.

The sanitary boards and bureaus of public health are likewise very quick to look after infection, and to quarantine the school in case of an epidemic of disease. They inspect the schools and the homes of the children, and in general perform a very efficient service, which concerns not only the school and the homes of school children, but the community. They are prompt in preventing the spread of infection, by quarantine, disinfection, etc. The law has, it is true, given them only limited powers, but it will give them more and better ones in the near future. To prevent disease ought to be, and is largely, the high ambition of physicians, as well as of the public generally. Medical men, of all people, know well the nature of diseases, and the extent and severity of their prevalence. They know a well-nourished and strong body when they see it, but likewise, and as a consequence, the well-nourished and well-supported brain and nervous system. The one is the necessary complement of the other. Brain energy and nervous force anticipate a sound, strong body. A vigorous, active brain must have a rugged physical make-up to support it or it will weaken, dwarf, and get out of balance sooner or later; it will become one-sided; some of the faculties will go wrong, and the beauty and harmony of all the faculties that go to make up a well-ordered brain will be marred, and sometimes almost totally destroyed.

To study the aptitude of each individual child, and take a careful survey of his physical construction, is the only sensible basis in any attempt at a classification of the pupils for the purpose of instruction. Without such a basis of classification harm is being done every day in our present system of teaching, resulting, in many instances in an irreparable injury to both the mind and the body. Any school system that educates the mind—the faculties, the intelligence—of the child, at the too great expense of the body, is vicious, radically wrong, and must be corrected. This is not being done, but it is here and there gaining the attention of the school boards

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and the physicians and educators generally, and the dawn of a new era in our present methods of classifying pupils will speedily come to pass. State medicine, if given the power, will put humanity on a better footing by producing, and wisely training, a more vigorous progeny, more free from disease, deformities and imperfections of all kinds.

The extent to which the world has gone mad on the subject of education and the refinements is not only remarkable, but it is appalling. No sensible parents force their child to eat the same quantity and kind of food. Why not take each individual child into account and study him from his own individual standpoint? Surely the nourishment, growth and development of the body, at the least, can not be hindered thereby. The same kind of sports and harmless indulgence that is well suited to the one child may not prove so wholesome to the other. The great plan of creation contemplates all these individualities, both physical and mental, and the respective environment of each—all these differences in the mental and physical wants of the early life of its creatures.

In the army and navy, the physican plays a very important part in selecting the individuals who compose the rank and file of good soldiers and splendid sailors, by a close, systematic scrutiny from his professional standpoint, of the whole make-up, physical and mental and moral, of the candidate. The ranks of the police and fire departments of the cities are likewise guaranteed at the hands of the physician. How much more important is it that the children in our schools should be carefully examined by him so as to secure to all of them the greatest and best development as a whole, and thereby guarantee to each child the true, wise, and harmonious measure of right development of body, mind, and heart that his birthright proclaims shall be his. Out of the human beings thus educated, there must necessarily be a grander and a more satisfying prospect of getting at all times better leaders for all the avocations of life.

The physician in the schools should be quite independent of the school board, the superintendents, and the teachers, and be connected, if you please, with the department of health, and be responsible to the head of this department, and to him alone. What the physician could do, in a generation, would make such a splendid showing in the direction of the right development, both physical and mental, as well as moral, that every thoughtful parent and citizen would be lifted up and relieved of, in great measure, the terrible load of discouragement and disappointment that is now daily and yearly being meted out to so many of our most hopeful people. But let such physicians be none other than those who are well disciplined, of broad views and scholarly attainments. Let their knowledge of human nature in general and of children in particular be of the broad type, and not second in importance to their attainments in anatomy, physiology, hygiene and mental science, and practical medicine.

Exercise the body, if you would preserve and sustain an active mind. Physical exercise stimulates the circulation which regulates waste and repair, cell birth, cell growth and cell development. It is a powerful stimulant of all the vital forces. Physiologic exercise is needful to every boy and girl; much more is it needed with those children who are born apparently at some disadvantage with the world—the ones whose degree of physical or mental vigor is below par. The soil for these should manifestly be a little different than for the others, and their exercise should be modified. This can easily be done by a proper classification. As it now is each public school may be compared to a big funnel or hopper into which boys and girls are annually shoveled and come out dead, dying, distorted, deformed, disfigured—yes, and depraved too in some instances—specimens of the race with only a few who are at all fitted to survive the struggle of life's great battle.

Such an annual educational exhibit, if you bunch them all together, might with little impropriety, as well as with a great deal of respect for veracity, be at least to a large extent truly styled an exhibition of vanity, perverted tendencies and a disqualification, as well as a disinclination to grasping things practical and things real. Such an exhibition, such education, truly does not bespeak nor guarantee an abiding and enduring civilization.

What is the substantial, the only safeguard to an enduring civilization? Truly, first of all, a progeny that is born right, sound to the core, with physical, mental and moral breeding of a high order to start with, so that when educated and trained and disciplined, it will exhibit strength, resource, power. Such a progeny, and such alone can build a civilization that will live long and weather the storms of adversity and harvest in abundance the precious fruits of useful and wholesome living—such a progeny will beget a still higher order of beings, and in this way essentially and truly is mankind lifted up; in this way is man everlastingly benefited; in this way does he crown with brightness and glory the ever hopeful tendency; in this way does the Spirit who made us all mete out to us our greatest blessings; in this way as a result of a truer and better education do we creatures after the law harvest the golden sheaf of righteousness, which is the prime, the beautiful result of all education. Amen, then, to our public schools! They truly are the great bulwark of our present civilization. Let us educate, and educate and educate, but let us do it rightly so we may have the greater and better if not the greatest and best, results for the efforts put forth in this direction.

As an adjunct, then, to the cause of education, as a potent factor for good results along the lines of a better classification of the pupils for purposes of instruction; as a teacher of sanitation, hygiene, etc., with all that these terms imply, I cheerfully recommend to the school boards and educators and people at large the services of the good, the thoughtful and up-to-date American physician. He truly knows the importance of building or securing a large school-yard or playground first, and then the modest school-house afterward, with proper air and light and heat and water and proper sanitation in general. He knows better than others the nature of the diseases that affect mankind at large and school children in particular. His usefulness in preventing disease and thereby benefiting the public health is of no mean proportion. His knowledge of the varying types of infant and child life, of its growth and development, certainly makes it quite natural that he should be chosen by the school board or by the state to arrest and prevent disease and lend his voice in the selection of the proper and wholesome course of study. That the doctor in the school will do an efficient and useful service to the pupils and the community at large, no thoughtful observing person will deny. That the cause of education will be better served and achieve better and more lasting results must likewise be admitted. That his assistance will

render the pupil to a greater extent mindful of his individual and personal wants and needs, must also be conceded; because he of all persons knows human wants and needs and suffering in a way that no other person does. It is he who well knows the importance of the strong and vigorous body, without which the mind must sooner or later give way, or become unbalanced and distorted.

A good physician in every public school in the land will, in one single generation, bestow on mankind a far richer heritage than the present system of teaching and the present method of doctoring. It is high time that the very worthy teacher and the capable physician should get together in our public schools, that the children of the land may suffer less, have less sickness and disease and death among their ranks, and have a training and discipline and an imparted knowledge vastly more suited to their individual and personal wants and relative environment. It is too much to ask or expect all of this at the hands of the teacher, who is of all people truly burdened with tasks and required to teach pupils more than twice too much. It is neither necessary, nor does it educate, in the broader sense of the term. Who of us as grown, mature individuals does not know how trying it is on both the mind and the body to undertake to do too many things at once? What a strain and what, in many instances, are the results obtained? Usually not what one would wish.

The task to be performed must be measured by the capacity to do or perform; not only the mental effort, but the physical force or vigor necessary to support that effort. Again, I repeat, let us classify the pupils not only with reference to their mental aptitude, but also to the degree of health and physical vigor necessary to support that aptitude. This, then, I conclude, as I stated in the beginning of my short paper, is the prime basis for classifying pupils for purposes of instruction, and without this basis of classification there can be no progressive, as well as the most highly productive school work.

TUBERCULOSIS IN COLORADO.

METHODS OF DISSEMINATION AND MEASURES FOR ITS RESTRICTION.*

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DENVER, COLO.

The records of the Denver Bureau of Health show the following mortality from tuberculosis:

Years	1893	1894	1895	1896	1897	1898
Total deaths from tuberculosis	435	377	428	368	489	501
No. specified as contracted in Colo.	49	51	64	66	88	99
Per cent. contracted in Colo.	11.26	13.52	14.95	17.93	17.99	19.77

This steady increase of the number of deaths from tuberculosis contracted within Colorado is sufficient to merit the earnest attention of all who are in any way interested in the prevention of the unnecessary spread of disease. At the August meeting of the Executive Committee of the State Board of Health, the secretary and Dr. J. N. Hall were authorized to seek a conference with the governor, the state dairy commissioner and the state veterinarian with a view to outlining a plan whereby the unnecessary spread of this disease might be restricted. An informal conference was held Sept. 26, 1899, and on September 30, the two last named officials met with the executive committee for a full discussion of the problem. Owing to its far-reaching importance, and in order that there might be the largest possible collection of data, adjournment was had for three months and the parties to the conference were directed to obtain all information possible. The scope of the inquiry conducted by the State Board of Health has included all possible sources of infection known to sanitarians. For all practical purposes these sources of infection may be divided into three classes, as follows: 1. The expectoration of consumptives. 2. The milk from tuberculous cows. 3. The flesh of tuberculous animals. This does not mean that other sources may not exist, but no others of importance are known to exist. Of course it has been proven that tuberculosis is transmitted by heredity. But these cases are so rare that this possesses merely an academic interest; and it would doubtless augur better for sanitary control of this disease if people's minds were disabused of the idea that heredity is a factor of any importance in the actual transmission of the disease. Of course, too, the disease has been acquired by accidental inoculation, as during a surgical operation or an accidental cut at an autopsy. But so far as present knowledge goes the sanitarian is concerned with the three sources mentioned, and with no other.

Expectoration.—It is a fact so well established as to need no argument that the expectoration of consumptives contains the tubercle bacilli, and that these bacilli are the cause of the disease in others. It is also well established that so long as the expectoration is kept moist the tubercle bacilli are not distributed through the air; but so soon as it dries they are liberated and float in the air as fine particles too small to be observed, and that their inhalation with the breath causes the development of the disease in others. So long therefore as consumptives are allowed to spit on the streets the air is liable to contain these germs. So long as they are allowed to spit on the floors of street-cars or other cars, of halls and other public places, there is danger to the public. So long as they are allowed to spit on the floors of hotels or boarding-houses there is danger to the other occupants of these places. Moreover, the danger increases proportionately as the sunlight and fresh air decrease, so that the danger from indoor expectoration is considerably greater than from out-door spitting. It frequently happens that through ignorance, carelessness or feebleness the consumptive spits on bed linen, where the matter dries and becomes a source of danger. How frequent is it the practice to spit in the handkerchief all know. The handkerchief dries quickly, and each time it is used the germ-laden dust infects the atmosphere. The question has been raised as to the relative degree of danger from expectoration in the different stages of the disease. Apparently some have considered the danger slight in the early stages, but great in the later periods where there is cavity formation and profuse expectoration. When it is considered that the earliest diagnostic method recommended to-day is the examination of the expectoration for the tubercle bacilli, and that they are frequently found before the physical examination reveals the presence of the disease, it will be seen that the earliest cases are sources of danger. When it is further considered that the cavity cases with abundant expectoration often show comparatively few tubercle bacilli, but do show immense numbers of the pus organisms, it will be concluded that the variation of danger in the different stages is not so great as at first supposed. An important question concerning the expectoration is: Who are liable to be endangered by carelessness in disposing of the sputum? 1. The consumptive himself. It can hardly be doubted

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that many cases terminate fatally by reason of reinfection with the patient's own expectoration, and that these persons might have recovered had they been more careful in this regard. 2. All persons coming into more or less intimate association with the consumptive. The number of nurses, wives, and others who are constantly associated with consumptives who take the disease is not small. Cornet investigated the death-rate from consumption among certain religious orders devoted to nursing. "In a review of 38 cloisters, embracing the average number of 4028 residents, among 2099 deaths in the course of twenty-five years, 1320 (62.88 per cent.) were from tuberculosis." "The mortality in prisons has been shown by Baer to be four times as great as outside." (Osler.) It is notorious that the insane placed in asylums have a large death-rate from this disease. But in hospitals where due care is taken, as that at Falkenstein, the disease is rarely acquired, and indeed it is claimed that at that institution no nurse or attendant has ever taken the disease. 3. All persons, that is, the public generally, are to some degree endangered by the expectoration on the streets, in cars and other public places. Dr. W. C. Mitchell and the late Dr. H. C. Crouch absolutely demonstrated that the expectoration of consumptives continues to be a source of danger after at least thirty-five hours of exposure to direct sunlight. No one will question, therefore, that the expectoration has abundant opportunity to become thoroughly dry and to be wafted over a large area, thereby endangering, to some degree at least, the health and life of every citizen. 4. Animals are liable to contract the disease from the expectoration of human consumptives. The identity of animal and human tuberculosis, first announced by Koch, but often disputed since, has at last been demonstrated beyond the possibility of a doubt. The reasonableness of the proposition that animals may and do contract the disease from man is not therefore open to question. In a recent summary of Continental opinion on this subject Conn says: "So long as calves come in contact only with their mothers the amount of tuberculosis is very small; the amount of the disease, however, increases rapidly year after year; this increase in the disease is directly proportional to the contact with man. In sanitary institutes, where the attendants of the cattle are presumably in considerable measure suffering from tuberculosis the amount of tuberculosis among the cattle is always very great. There are practically no cases of healthy herds where they are attended by the patients of sanitary institutes. The condition of the herd may be always predicted from the condition of the family that has charge of the herd. If the inspector looks first at the people on the farm and finds one or two of them that appear to have traces of tuberculosis he can predict with absolute certainty that he will find the same disease among the cattle." Of interest in this connection is the fact that it is only in comparatively recent years that the existence of bovine tuberculosis in Colorado has been admitted. Though this is not the sole reason for the development of the disease among Colorado cattle it can hardly be doubted that the constant influx of consumptives to our state and their employment in attending cattle has had considerable influence.

Dairy Products.—That cows suffering from tuberculosis may give milk containing the tubercle bacilli is universally accepted among competent observers. Tubercle bacilli have repeatedly been found in such milk. Animals have been inoculated with the milk and died from typical tuberculosis. Other animals have been fed the milk of tuberculous cows and have succumbed to the disease. Conn says: "It is the universal opinion in Europe, and in this country, of those who have looked into the matter that there is a danger to mankind in the use of tuberculous milk." Hirschberger states that an owner of a herd of cows known to be tuberculous withdrew the milk from market and used it without boiling to fatten his pigs. Almost without exception they became tuberculous and the entire stock had to be killed. Osler says: "There is no reason to believe that young children, or even adults, are less susceptible to the virus than calves or pigs, so that the danger of the disease from this source is real and serious. The great frequency of intestinal and mesenteric tuberculosis in children no doubt finds its explanation here. In Woodhead's analysis of 127 cases of fatal tuberculosis in children, the mesenteric glands were involved in 100." Dr. Martin, on behalf of the Royal Commission of England, experimented with milk from tubercular cows on guinea-pigs, rabbits and pigs. The milk from cows with tuberculosis of the internal organs but not of the udder produced no results. With that from cows with tuberculous udders every inoculation was positive. He then fed 27 animals with varying quantities of milk, and 19 developed tuberculosis. The abdominal organs were chiefly affected in those which developed the disease. Sometimes there was generalized tuberculosis; sometimes the glands about the mouth and the angle of the jaw were affected. When the location of the disease is compared with the location of the disease in children who live largely on milk, the conclusion seems warranted that the infection in both cases is from a common source. In commenting on these experiments Dr. Martin says: "The milk of cows with tuberculosis of the udder possesses a virulence which can only be described as extraordinary. In those cows where the tubercle bacilli were found in the milk, the feeding experiments were uniformly positive, as well as the inoculation experiments. It is noticeable, too, that a small dose of the milk diluted four times gave tuberculosis to all the animals fed, and that a dose of even .05 to .1 c.c. diluted with non-infected milk was sufficient to produce tuberculosis." A boarding-school in Paris had fourteen girls, nine of whom developed tuberculosis in a short time. It was discovered that they had all been using milk from one cow and that that cow was markedly tuberculous. (Conn.) A daughter of Dr. Goss, without hereditary taint or predisposition, was quite healthy up to the age of 17, when she sickened and died in about ten months. The autopsy showed extensive tuberculosis of the abdominal organs and mesenteric glands. Her father had been in the habit of taking her every week to a small farm which he owned, and her chief delight was to drink milk fresh from the cows. Four out of the herd of five cows proved tubercular and two had udder tuberculosis. No other source of infection was discovered. (Kilpatrick). Mayo says, and he speaks from the standpoint of the veterinarian: "As tuberculosis of cattle is identical with that of man, and the disease can be transmitted to mankind through the milk and flesh, which furnish so large a part of the food of man, the importance of this disease is apparent." The entire subject of milk infection was taken up by the Massachusetts Society for the Promotion of Agriculture, the results of the studies of Professor Ernst being published by this society. He found that tubercle bacilli sometimes occur in the milk of cows having no demonstrable tuberculous lesion of the udder. This was determined by cover-glass preparations, as well as by inoculations of animals. Further, it was found that the feeding of infected milk to animals

caused the disease in a certain proportion of cases. Ernst came to the following definite conclusions: 1. While the transmission of tuberculosis by milk is probably not the most important means by which the disease is propagated, it is something to be guarded against most carefully. 2. The possibility of milk from tuberculous udders containing the infectious element is undeniable. 3. With the evidence here presented, it is equally undeniable that milk from diseased cows with no appreciable lesion of the udder may, and not infrequently does, contain the bacillus of the disease. 4. Therefore, all such milk should be condemned for food. Bay examined 351 separate specimens of cows' milk by centrifugation, and in 51 found tubercle bacilli.

There are those who assert that the danger to the public health from such sources is so slight as to be of no practical importance. Those making this statement are frequently directly or indirectly connected with dairy work. But if their argument is sound it should be accepted. It may be well, therefore, to examine their chief statements. They assert that unless there be general tuberculosis or udder tuberculosis there is probably no danger. They make the further statement that dairymen will of themselves, without supervision, separate a cow suffering from general tuberculosis from the milk-producing herd. What assurance has the public that this will be done voluntarily? Granting that many dairymen will do it, the public demands, and has a right to demand, that such separation shall not depend on the volition of a dairyman. In view of the fact also that here in Colorado dairymen have had to be forced to separate cows with notorious evidence of tuberculosis, the statement seems too insignificant for further attention. This is not saying, however, that many would not do this; but I do contend that the dairymen as a class could not be depended on to do it. It is also true that there may be widespread bovine tuberculosis without sufficient symptoms to excite suspicion. N. S. Mayo, M.S., D.V.M., says: "It is astonishing how badly an animal may be diseased and to all appearance be in good health. Several years ago I was called to treat a pure-bred Shorthorn cow that, until the day I was called, had appeared in excellent health. The disease was diagnosed as tuberculosis and she was destroyed. Post-mortem examination showed both lungs badly diseased, a tuberculous abscess in one lung containing a pint of pus. Her heart was a mass of tuberculous tissue, weighing 16.5 pounds, and almost every internal organ more or less diseased. This cow had a sucking calf two months old at her side. The calf was destroyed, and was found to have a tuberculous abscess in one lung as large as a walnut, and the bronchial lymphatic glands were also diseased." In view of the difficulty of diagnosis, and in view also of the findings of Professor Ernst, above quoted, and of the further fact that no one can say at what moment a cow suffering from a local tuberculosis may develop a general one or udder tuberculosis, it is certainly an irrational procedure to allow the sale of milk from a cow with a local affection of this nature. It is also worthy of note that the very persons who minimize the danger to human beings from such milk, emphasize the fact that this milk should be Pasteurized or sterilized before feeding it to calves or pigs. One more argument used seems to demand notice: Some assert that during the past forty years bovine tuberculosis has greatly increased, while during the same time human tuberculosis has decreased, and this in spite of the fact that there has been a considerable increase in the use of dairy products. If the truth of these assertions should be granted the conclusion does not follow that there is little or no danger from milk. For far greater attention has been paid during this period to the prevention of infection in other ways than ever before. But Sir Richard Thorne, medical adviser to the Local Government Board, London, said, on Nov. 9, 1898, that the increase of tuberculosis had gone hand in hand with a steady increase in the consumption of cows' milk as a food, English people being habitual consumers of uncooked milk. In Iceland, which is without cows, human tuberculosis is unknown. Japan was free from tuberculosis until cows were introduced from America. Since that time the disease has rapidly developed until now nearly one-third of all deaths are due to this disease.

It is established beyond cavil that milk is a sufficient source of danger to demand the earnest attention of health officials. There appears to be no reason for not accepting without question the doctrine of the danger of milk from tuberculous cows.

Meat.—"There has been a large amount of investigation in connection with the possibility and the probability of tuberculosis being carried from animal to man in the flesh of the animal used as food. A very large amount of experiment in this connection has been carried on in the last fifteen years. These experiments have in large degree consisted in feeding tuberculous flesh to animals known to be subject to the disease, and then noticing whether its consumption produces tuberculosis in the animals thus fed. The result of these experiments has been conclusive enough. While it does not always happen that tuberculosis will follow the eating of tuberculous material by such animals, it has resulted in a sufficient number of cases to show beyond peradventure that this disease may be transmitted by the flesh of animals suffering from the disease." (Conn.) It is interesting to note that in New York City, for six years, the average annual death-rate from tuberculosis per 100,000, among the Russian Polish Jews, was but 76.72, while for the remainder of the population it was 427.75. When their scrupulous care as to meat inspection is considered, one can not help wondering if this may not have some effect in producing this wonderful relative freedom from the disease. The almost unanimous opinion concerning the danger from meat is that if there is general tuberculosis the entire carcass is unfit for food. But if the disease be localized the affected part is all that need be condemned. Thorough cooking kills the germ, but so much beef is eaten rare that anything less than the above plan indicates is unsafe.

What evidence is there of bovine tuberculosis in Colorado? It appears to be the general opinion of observers that little, if any, exists among range cattle. This is not strange in view of the continuous out-of-door life which cattle of this class lead. Tuberculosis bears a rather close ratio to the indoor life and forced feeding of cattle. Yet Dr. Hillkowitz and I witnessed the slaughter of a cow from the range, one that had never been outside of Colorado, which had a beginning pulmonary tuberculosis. As to the disease among dairy cows, no one who has investigated the matter will contend that it does not exist. The Denver Bureau of Health has made promiscuous tests, as follows: In 1897, 477 tests, 10 condemned, about 2 1/10 per cent; in 1898, 4 tests, 1 condemned, 25 per cent.; in 1899, 101 tests, 6 condemned, about 6 per cent.; total number of tests 582, total condemned 17; per cent. condemned, about 3. Dr. Hillkowitz, in his interviews with Hebrew slaughterers, found that not one of them would knowingly buy a dairy cow for slaughter because of the known prevalence of

tuberculosis among this class. At a certain Denver slaughter-house, notorious for bad cattle, one of the butchers told me he thought 90 per cent. of all dairy cows slaughtered there were tuberculous. No butcher interviewed, and they have been at random, has put the percentage lower than 30. A prominent one who tries to buy the best beeves told me he would not knowingly buy dairy cows, but said that in spite of all care he is compelled to reject a considerable number of carcasses.

There are practically but two methods of determining the presence of tuberculosis among cattle, viz., post-mortem inspection and the tuberculin test. The symptoms are so latent and obscure and the physical signs are so uncertain by reason of the thick chest walls of the animal that the disease may advance extensively before it is suspected. As yet there has been no adequate and systematic slaughter-house inspection in Colorado. The other duties of the city meat inspectors prevent their giving much attention to this matter, so there are no data at hand from which absolutely to determine the per cent. of tuberculous animals coming to slaughter. The State Board of Health has tried to obtain the estimate of the butchers without bias, and this opinion is recorded above. Every one knows that no adequate testing with tuberculin has been made, but the available statistics are quoted above. To hazard a statement of the amount of bovine tuberculosis in Colorado would therefore be unwise. But it can be asserted with positiveness that the disease exists. It is also probably true that a complete testing of all dairy cows within the state would reveal a larger prevalence than has been supposed. Certainly it is true that unless measures are taken to lessen its spread the percentage will increase rather than otherwise.

This introduces an idea which has not received sufficient consideration, but which, nevertheless, is exceedingly important, i. e., that the prevention of bovine tuberculosis is of marked importance to the dairymen and stockmen themselves. Tuberculosis enters a herd in the first instance from without, by one of the methods above mentioned. Once it has entered, its spread is certain under ordinary conditions. This means a prospective loss of a percentage at least of the stock and the continual infection of fresh animals. Instances are recorded where owners have been forced to entirely restock their farms because of the continual spread of the disease. Conn says: "The statistics being collected in the last few years are tending to show that bovine tuberculosis is not only on the increase but on the very rapid increase. Twenty-five years ago the amount of tuberculosis reported from slaughter-house inspection was only 3 to 5 per cent. To-day it is 10 to 50 per cent., and more often approaching the higher than the lower figures."

In Germany, in 1895, there was a direct loss to the farmers of $1,500,000 from the condemnation of carcasses of slaughtered cattle alone. It should be remembered, too, that German inspection does not condemn every tuberculous carcass, so that this represents but a small part of the money value of the tuberculous animals. Though it is probably true that our percentage is lower, the danger is present, and it is far more economical to attack the problem now than it will be if a few years are allowed to pass in inaction. Therefore, the dairymen and all breeders of stock should welcome rather than oppose a practical move in this direction.

How can the milk supply be protected? Not by examining the milk for the tubercle bacilli, because milk from a tuberculous udder may be free to-day and full of bacilli to-morrow, and to analyze every milking is a physical impossibility. Not by mere inspection of the herd. Though this would reject the majority of animals with advanced general tuberculosis and those with pronounced udder disease; there are real dangers, according to the statements of competent authorities—e. g., Mayo and Ernst—from animals in which the disease can not be discovered by even close inspection. There remains but one known method, the use of the tuberculin test and the prohibition of the sale of milk from every animal not shown free from reaction. The simplicity of the test makes it easy of application. Its absolute freedom from danger is now acknowledged. Its accuracy may be understood from the following figures given by Mayo: Out of 11,313 cattle tested, 5,737 reacted. On post-mortem, 5,746 were found tubercular. Two reacted that did not show tuberculosis and 9 did not react, but were tuberculous. This shows an average of but one error in every 1,028 tests.

This testing should be done by officials only, in order to be sure of its accuracy and to guard against fraudulent certificates. The method is simple, but takes time. The tester takes the temperature of the animals every two hours, from 6 a. m. to 8 p. m., and records this as a basis for comparison. At 10 p. m. he injects 2 c.c. of tuberculin (B. A. I.) hypodermically. Beginning at 6 a. m. of the following day he records the two-hourly temperature until 10 p. m. If the temperature rises 2 F. or more above the corresponding temperature of the day before, the animal is considered tuberculous.

What shall be done when tuberculosis is discovered in a herd? 1. The reacting animals should be separated absolutely from the non-reacting, without delay, and there should thereafter be absolutely no communication of the herds, as by using the same feeding places, watering troughs, etc. The reacting animals should be marked with an imperishable mark or brand. 2. The barn which they have occupied should be completely disinfected. 3. The sale of milk from the reacting herd should be stopped at once. 4. It is not necessary to order the slaughter of every reacting animal. If a man has but one or two reacting animals he will probably prefer to kill them. But even then he need not suffer great financial loss. For unless there is general tuberculosis he should be allowed to fatten the animal for beef, if he will consent to slaughter under competent inspection. But if he has a considerable number of reacting animals he probably will wish for some other solution of the problem. If he can and will absolutely separate and keep separate the two herds, and if he will separate the calves of the reacting herd, have them tested and bring them up on non-infected milk, there is no reason why he should not be allowed to use these diseased animals to build up a healthy herd. But this latter plan depends for its success on rigid observance of the conditions mentioned.

The two greatest hindrances to the solution of this problem have been the objection, on the part of the owners, to the financial loss involved in compelling the slaughter of their animals without compensation, and that on the part of the state to the enormous burden involved in compensation. With these two objections removed there should be active, earnest co-operation of all concerned. I believe the two plans presented do away with the objections, for the farmer will be able to sell many diseased animals, getting good compensation therefor, and where his herd has become largely invaded he can, by proper care, build up a healthy one and be assisted in doing so. He must lose only those animals which would soon die. On the other hand, the state does not need to spend a great amount of money for condemned animals. I am

thoroughly convinced that it will pay the owners to take up this problem and pay the necessary expenses of testing if some competent authority will guarantee the accuracy of the work. But it is doubtful if they will without some encouragement.

The question now confronting us is: What shall we do to lessen the spread of this disease among animals and mankind?

1. The continual education of the public is essential to success. Every person should be informed as to preventive measures. I therefore recommend that a carefully worded circular suitable for popular distribution be prepared by the State Board of Health, and that an effort be made through local health officers, physicians, libraries and schools to put this circular in the hands of every resident of Colorado. This circular should set forth the dangers from expectoration and from milk and meat supply, and the measures necessary to prevent the danger.

2. Public expectoration should be lessened by proper placards and be prohibited by ordinances in the larger places of the state. Women's clubs, city improvement societies and the public press will be of great aid and I recommend that their active co-operation be secured where possible.

3. I recommend that all rooms where deaths from consumption are reported be disinfected immediately by the local health officers.

4. All insane asylums, prisons, reformatories and hospitals should be required to keep tubercular and non-tubercular inmates separate. For state institutions this is the work of the State Board of Health; for others it is the work of local boards of health.

5. So far as possible dairymen should be persuaded to have their herds tested and use this as a means of advertising. But as this is insufficient, I recommend that by the promulgation of health regulations or by the passage of ordinances where necessary, dairymen be compelled to produce official certificates of freedom from tuberculosis before they are granted permits to sell milk. Due notice must be given, but this ordinance can go into effect by July 1, 1900, if the matter is properly pushed, and I recommend that date. Where necessary it will be well to compel the payment of a certain sum per head for every cow in the milk-producing herd, and to utilize this fund for testing and sanitary supervision. The State Board of Health is willing to select competent men for this work on request of local officers, and to frame and publish rules governing such testing and inspection; in short, to facilitate the work in every way. It seems to me desirable to have an agreement between the local boards and the State Board of Health, so that no inspector will be employed without authority from the latter. Uniformity of regulations and complete records of the work can thus be secured, and no confusion as to conflict of authority can arise.

6. I also recommend that the employment of tubercular persons on dairy farms or at milk depots be absolutely prohibited, by ordinance.

7. Ordinances should be passed prohibiting private slaughter-houses and requiring that all animals be slaughtered at public abattoirs under competent inspection. If federal meat inspection can be secured, all condemned meat should be destroyed in order to prevent its being placed on the local markets. If federal inspection can not be secured, a tax should be levied on the slaughter business sufficient to meet the expenses of inspection.

8. I further recommend that the active aid of the public press be enlisted in furthering all phases of this important work.

These measures were definitely agreed on at a conference of state and local officials held on Dec. 23, 1899, and will be carried out by the responsible officers.

REGULATION OF THE PRACTICE OF MEDICINE.*

BY JUDGE JOHN I. DILLE.
DEAN OF HIGHLAND PARK COLLEGE OF LAW.
DES MOINES, IOWA.

The power and the duty of the states to regulate the practice of medicine have been fully established. It is the inalienable right and imperative duty of the government, by legislation, to promote the health, morals, education and good order of the people. This right, vested in the people in their sovereign capacity, has been likened to the individual right of self-defense, the exercise of which is a part of the law of self-preservation. The police is a plenary power, and may be exercised by the state to regulate or prohibit things inconsistent with the public welfare.

No other function of government has been so frequently appealed to, nor so successfully exercised, and none other is of greater importance to the people, individually and collectively. We look to this power for the suppression and punishment of crime, the preservation of public peace, the regulation of dangerous employments, the sale and use of dangerous commodities, the prohibition of acts inconsistent with public morals, the protection of the weak from the aggression of the strong, the ignorant and unwary from the power of the cunning and the unscrupulous, and for the maintenance of the public health.

It is by virtue of this power that the state maintains prisons, confines lunatics, regulates the conduct of vagrants, establishes fire limits, regulates the use of dangerous machinery and public conveyances, forbids lotteries and gambling, prescribes quarantine regulations, prohibits adulteration of foods, controls the liquor traffic; in short, it is the weapon to battle with all of the evils of society.

It is under this classification that the state regulates trades, occupations and professions, notably those of plumbers, engineers, pilots, masters of ships, telegraph operators, druggists pharmacists, lawyers and physicians.

Some physicians question the propriety of such legislation. It is urged that the ignorant are inclined to look on such legislation as an attempt by the physicians in practice, to monopolize the business, and that under defective or poorly-executed laws the dishonest and incompetent succeed in getting certificates to practice, and their pretensions are made respectable thereby. My judgment is that the united efforts of the profession could not effect a repeal of the legislation on this subject. The necessity for such legislation is firmly fixed in the minds of most intelligent laymen, as the legislation on the subject in nearly every state in the Union from the earliest period to the present time shows. It would seem to be your duty to the public to assist in formulating such legislation and in making the same effective. The man of science can hardly afford to shrink from public duty because its discharge is unpleasant, nor because some of the beneficiaries are incapable of appreciating the protection afforded by his efforts. The self-consciousness of public duty well performed, and the approbation of

*Delivered before the Polk County Medical Society, Oct. 2, 1899.

posterity, are the only certain rewards of the faithful and efficient public servant.

Public welfare demands that the physician and surgeon possess knowledge and integrity; knowledge to properly diagnose the case and to apply appropriate remedies, and the integrity to deal honestly with his patients. It is certainly unnecessary to demonstrate that a well-disciplined mind, thoroughly familiar with the several branches that compose the science of medicine, is essential to the diagnosis of a case, and that such diagnosis should precede treatment; and it is equally patent that the physician's or surgeon's skill and honesty are unknown to the people, if he be inexperienced or in a strange community. The purpose of legislation on this subject is to furnish to the people proof of these essential qualifications, by requiring appropriate certificates from duly constituted state authorities, and that such certificates be made accessible to all by being recorded in a public office of the county.

Legislation regulating the practice of medicine is common to all of the states, and its constitutionality, when framed on proper lines, has been universally sustained. The exercise of the police power, especially in the regulation of occupations, trades and professions, has been persistently resisted as an encroachment on personal liberty. Our first conception is that every man has the right to follow any occupation, trade or profession he may desire, without let or hindrance from the state, and that to earn an honest living in any place and in any legitimate calling, without restriction, is an inalienable right. That this reasoning is fallacious and ignores one of the fundamentals of government is made plain by the following recent deliverance by the Supreme Court of the United States:

It is undoubtedly the right of every citizen of the United States to follow any lawful calling, business or profession he may choose, subject only to such restrictions as are imposed upon all persons of like age, sex and condition. This right may in many respects be considered as the distinguishing feature of our republican institutions. Here all vocations are open to every one on like conditions. All may be pursued as sources of livelihood, some requiring years of study and great learning for their successful prosecution. The interest, or, as it is sometimes termed, the "estate" acquired in them—that is, the right to continue their prosecution—is often of great value to the possessors and can not be arbitrarily taken from them, any more than their real or personal property can be thus taken. But there is no arbitrary deprivation of such right where its exercise is not permitted because of a failure to comply with conditions imposed by the state for the protection of society. The power of the state to provide for the general welfare of its people authorizes it to prescribe all such regulations as in its judgment will secure, or tend to secure, them against the consequences of ignorance and incapacity, as well as of deception and fraud. As one means to this end, it has been the practice of different states, from time immemorial, to exact in many pursuits a certain degree of skill and learning upon which the community may confidently rely; their possession being generally ascertained upon an examination of the parties by competent persons, or inferred from a certificate to them in the form of a diploma or license from an institution established for instruction on the subjects, scientific and otherwise, with which such pursuits have to deal. The nature and extent of the qualification required must depend primarily upon the judgment of the state as to their necessity. If they are appropriate to the calling or profession, and attainable by reasonable study or application, no objection to their validity can be raised because of their stringency or difficulty. It is only when they have no relation to such calling or profession, or are unattainable by such reasonable study and application, that they can operate to deprive one of his right to pursue a lawful vocation.

The present Iowa medical practice act, which supersedes all previous legislation on the subject was passed in 1897, and provides that the Board of Medical Examiners may issue certificates to physicians, authorizing them to practice medicine, surgery and obstetrics in the state, as follows:

1. Persons who began the practice of medicine in the state before Jan. 1, 1899, and have passed the examination prescribed by the act.

2. Persons who began the practice of medicine in the state before Jan. 1, 1899, and who had diplomas from medical schools in good standing, issued before said date.

3. Persons who begin the practice of medicine after Jan. 1, 1899, have diplomas from medical schools in good standing, have passed the required examinations before the Board and have furnished evidence that the applicant has attended four full courses of study of not less than twenty-six weeks each, no two of which shall have been given in any one year.

4. A person who goes from place to place and solicits persons to meet him for professional treatment at places other than his office at the place of his residence, is an itinerant physician, and in addition to procuring a certificate from the Board, as other physicians are required to do, must also pay $250 per annum for the use of the state.

Each applicant for a certificate must pay a fee of $20. The certificate must be recorded in the office of the county recorder, who receives a fee of 50 cents for recording. The Board may refuse to grant a certificate to a person who is not of good moral character, and if granted it may be revoked for a like cause, or for incompetency or habitual intoxication, or for false and fraudulent statements as to graduation.

The following persons are not required to have certificates:

1. Physicians who have been in the practice in this state for five consecutive years, three years of which time shall have been in one locality.

2. Students of medicine, surgery or obstetrics, who have had not less than two courses of lectures in a medical school of good standing, may prescribe under the supervision of a preceptor, or render gratuitous service in case of emergency.

3. Surgeons of the United States Army, Navy and Marine Hospital Service.

4. Physicians or midwives, who have obtained from the Board of Examiners a certificate permitting them to practice medicine, surgery or obstetrics, without a diploma from a medical school or examination by the Board.

5. Persons who advertise, sell or prescribe natural mineral waters flowing from wells or springs.

6. Registered pharmacists filling prescriptions.

7. Persons selling patent or proprietary medicines.

In 1898 an act was passed authorizing the Board of Medical Examiners to issue certificates to graduates of osteopathic schools, authorizing them to practice osteopathy, at the same time declaring the same not to be the practice of medicine.

One of the district judges of the state, in a well-written and what seems to be a well-considered opinion, has held the act of 1897 unconstitutional, because of the provision which exempts from the operation of the act "physicians . . . who have been in the practice in the state for five consecutive years, three years of which time shall have been in one locality."

The point made against the law is that it is class legislation, or, as the judge says:

The act divides medical practitioners into two classes, those who have practiced five years in the state, three of which shall have been in one locality, and those who have not so practiced. On the latter class a burden of an examination, a fee of $20, the recording of their certificate and the payment of a fee of fifty cents is imposed, and must first be complied with before they can lawfully practice medicine after the taking effect of the law, no matter what may have been their ability, skill or qualifications. When the law took effect the five-years-man

with three years in one locality was not in any way affected thereby.

The state and federal constitutions invoked in this case do not contemplate that every man shall have the same rights, immunities and privileges as every other man; but they do mean that every man shall have the same rights, immunities and privileges as every other in the same situation.

Some years ago the legislature of this state passed a bill regulating railroad freight rates, and in a decision sustaining such legislation the Supreme Court of the United States said:

It remains only to be considered whether the statute is in conflict with Section 4, Article 1, of the Constitution of Iowa, which provides that "All laws of a general nature shall have a uniform operation" and that "the General Assembly shall not grant to any citizen, or class of citizens, privileges or immunities which upon the same terms shall not equally belong to all citizens."

The statute divides the railroads of the state into classes according to business, and establishes a *maximum* of rates for each of the classes. It operates uniformly on each class, and this is all the constitution requires. The Supreme Court of the State in the case of McAunich vs. R. R. Co., 30 Iowa, 343, in speaking of legislation as to classes, said: "These laws are general and uniform, not because they operate upon every person in the state, for they do not; but because every person who is brought within the relation and circumstances provided for is affected by the law. They are general and uniform in their operation upon all persons in the like situation, and the fact of their being general and uniform is not affected by the number of persons within the scope of their operation." This act does not grant to any railroad company privileges or immunities, which upon the same terms do not equally belong to each other railroad company. Whenever a company comes into any class it has all the privileges and immunities that have been granted by the state to another company in that class. It is very clear that uniform rate of charge for all railroad companies in the state might operate unjustly upon some.

It was proper, therefore, to provide in some way for an adaptation of the rates to the circumstances of the different roads; and the General Assembly, in the exercise of its legislative discretion, has seen fit to do this by a system of classification. Whether this was the best that could have been done is not for us to decide. Our province is only to determine whether it could be done at all, and under any circumstances. If it could, the legislature must decide for itself, subject to no control from us, whether the common good requires that it should be done.

Physicians who hold diplomas from medical schools of good repute, those who do not, and those who have been in the practice a given length of time are arranged in classes in the medical practice acts of most of the states, and such classification has been sustained by the supreme courts of Oregon, Minnesota, Michigan, Indiana, North Carolina, Nevada, and Washington Territory, and the Supreme Court of the United States, and the right to make the same may be regarded as established.

The decision in question seems to be based on two New Hampshire cases, and in these the following is the turning point, as stated by the court:

The present objection is not to the rule of evidence by which the statute requires qualification to practice to be determined. It is not that residence and practice during the specified time in one place is made sufficient evidence of fitness, equivalent to a diploma, rendering an examination unnecessary. It is not that, of those physicians who are declared by the statute or under its provisions are found qualified to practice, some are, and others are not subject to the burden of obtaining a license. Exemption from the burden is made to depend, not upon the integrity, education and medical skill, but upon a continuous dwelling in one place for a certain time. It is an arbitrary discrimination, permitting some and forbidding others to carry on their business, without regard to their competency or to any material difference in their situation. The test is not merit but unchanged residence.

After stating the above views in his own language, the judge of this state, whose opinion we are considering says:

I think our law makes an arbitrary discrimination, laying a charge or burden on one class of physicians and citizens of the state not imposed upon others, in permitting some and forbidding others to carry on the business without regard to their competency or skill.

The constitutionality of these statutes turns on the question whether the classification of physicians made by this act is a legal and proper one. If physicians who hold diplomas are properly put into one class, those without diplomas in another, and those who have been in the practice in a particular place for a specified time in still a third class, then it follows that a person in either class has no right to complain of the requirements as to the class to which he does not belong. The man without a diploma, who must pay $20, can not complain, for all of his class pay likewise; neither can he complain because the practicing physician is not examined and pays nothing, for the obvious reason that he does not belong to that class.

Then, the real objection is that the classification is based on the residence of the physician at a particular place for a given length of time, and that such classification is an arbitrary one, i. e., one that has no relation to the proper regulation of the practice of medicine.

In each decision the court has assumed that the classification is an arbitrary one. If this is a correct assumption the courts have arrived at correct conclusions. The United States Supreme Court has well said:

When we consider the nature and the theory of our institutions of government, the principles upon which they are supposed to rest, and review the history of their development, we are constrained to conclude they do not mean to leave room for the play and action of purely personal and arbitrary power.

The fallacy in these decisions is in the assumption that this is an arbitrary classification. I concede, if the act should provide that all red-headed physicians shall be exempt from the duty of getting a certificate, the classification would be an arbitrary one and could not be sustained. The classification must have some relation to the subject classified and to the purpose of the legislation. The existence of that relation is a judicial question, but its importance, it once having been found to exist, is one solely for the legislature to consider.

This legislation is for the purpose of protecting the people from ignorance, incompetency and dishonest practices. A stranger or student coming into a community to practice medicine must file with the recorder of deeds evidence of the fact that he has satisfied the officers of the state that he is worthy of confidence, and qualified to practice medicine. In no other way could the public so readily ascertain these facts or obtain this protection. This reasoning does not apply to a physician who has practiced five years in the state and three years in a particular place. A physician is a conspicuous figure in every community. In a sense he is a public character. Everyone soon knows him by name, sight or reputation. At the end of the required statutory time the people of the community have fixed ideas of his integrity, capacity, and of whether he is a success or a failure. He who does not know can soon learn from his neighbor. Nearly every citizen is capable and willing to express an opinion. The man who could be imposed upon under such circumstances would need a guardian. A certificate filed at the court-house would not answer the purpose. Now

why should such physician be classed with the student or stranger? Is not place of residence very properly made the turning-point in the classification? How can the courts say, as a matter of law, that such classification has no relation to the subject classified and to the purposes of the legislation?

In passing on a case involving this principle, the Supreme Court of North Carolina said:

> It was fair to assume that those already in the practice, many of whom had grown gray in the service of humanity and the alleviation of suffering, had already received that public approbation which was a sufficient guaranty of their competency, and should not be needlessly subjected to the humiliation of an examination by the side of beardless boys, who had not yet swung a scalpel or prescribed a purgative, save under supervision; while those already in the practice who had proved incompetent it might be assumed, had been equally stamped with public disapproval, at the cost to the public of much bitter experience.

As supplementing what has already been said, I quote with approval a recent declaration by the Supreme Court of Michigan:

> The real test of the right to practice is that he shall be a graduate of any legally authorized medical college in this state or in any one of the United States, or in any other country, and in this there is no discrimination. Now the legislature saw fit, in establishing this test, to except from its provisions a certain class of physicians and surgeons. In so doing, it in effect declared that the physicians or surgeons who had actually practiced medicine continuously for at least five years in this state, and who are practicing when this act shall take effect, were as well qualified, in its judgment, to continue the practice of their profession as the student coming fresh from the halls of a college with his diploma was to commence it. The reasons which induced the legislature to insert the exception may have been as varied as the different minds of its members. It certainly had power to insert it, and whether the power was reasonably or unreasonably exercised, or whether it was expedient to enact the law, are questions exclusively within the province of the legislative branch of the state government, and their judgment must necessarily be decisive upon these questions.

It is apparent to me that this classification is not an arbitrary one, but that it was necessary and proper for the legislature to recognize the existence of conditions which called for a classification of the subject for the purposes of appropriate legislation, and that the details of that classification are only for legislative consideration.

It will be observed that physicians and midwives who have obtained from the Board of Examiners certificates permitting them to practice medicine, surgery or obstetrics, without a diploma from a medical school or examination by the Board, are exempted from the operation of the act.

The physicians referred to can not be those who have practiced five years, three years of which time in one locality, for they are exempted by another clause. This exemption is made, it seems to me, through a misconception of previously existing law. The act of 1888, in force when the act of 1897 was passed, provided for the issuance of certificates to graduates of medical schools in good standing and to persons passing the required examination, and also to physicians who had practiced in the state five years, three of which at one place. No authority existed in the Board to issue certificates to physicians or midwives who belonged to neither of the three classes named. The result is that the legislature has created a class of physicians and midwives, to-wit, those holding certificates from the Board at the time of the passage of the act of 1897, which had no existence in fact or in law, for the Board had no authority to issue such certificates. The presumption is that none were issued and that no such class existed.

It may be urged that the language of the act making the exemption is sufficient authority for the Board to issue such certificates. If such a conclusion is sound it would probably be fatal to the validity of the act, for it would confer on the Board arbitrary power to issue such certificates according to the caprice of its members. Such position, however, is not tenable. The whole act bears evidence of the intention of the legislature to require the Board to act on evidence, the *quantum* of proof in each case being defined by the act. Such a construction would invalidate the act. It is a well-established rule that when a statute is susceptible of two constructions, one of which would make it unconstitutional, the one that sustains the statue will be given. As no one belongs to this class, and no one legally can belong to it, there can be no such thing as rights, privileges or immunities thereunder, and therefore there can be no discrimination in favor of any one by reason of such classification.

Each itinerant physician is required to pay to the state $250 per annum, and it may be urged that as the payment has no relation to the existence or non-existence of skill in the science of medicine, it is an arbitrary exaction from a class of physicians. But we have already seen that the legislature has made prominent in the act the importance of permanence in location of the physician as an element of safety to the public; evidently on the theory that when a reputation for good or bad is established the people can protect themselves, and that such idea properly arises out of the subject of the practice of medicine. It seems to be the judgment of the legislature that quackery, fraud and deception can best be practiced amongst strangers, and is most likely to be resorted to by itinerant physicians. This I believe to be also in accord with the common judgment of mankind. The legislature might legally, if it saw fit, entirely prohibit the itinerancy of physicians on this theory. This legislation is designed simply to discourage the practice, and is a reasonable exercise of legislative power.

In the act of 1897 there is a discrimination between those who may begin the practice and receive their diplomas after Jan. 1, 1899, and those who began the practice and received their diplomas before that date. The latter class can receive certificates on presenting their diplomas without examinations, or on examinations without diplomas, as provided by the old law, while the former class must have diplomas, pass the examinations and furnish evidence of having attended four full courses of study of not less than twenty weeks each, no two of which shall have been given in any one year.

The classification is based on a date, named in the act, two years subsequent to the passage of the statute. Is this classification arbitrary and illegal, or one appropriate for the subject classified and within legislative power?

The primary thought in this classification is the recognition of progression in the legislation on this subject, and the existence of rights accrued under the old law which should be respected. It is no small undertaking for the average man to qualify himself for the practice of medicine. The statute in force prior to the passage of the act in question was enacted in 1888. It is but reasonable to presume that the curricula of the medical collges of the state were arranged, and that students had adjusted their courses of study so as to comply with the existing law. This much the state had a right to ex-

pect. It is probable that at the time of the passage of this act students were in all stages of preparation for the practice of medicine, some studying with physicians as preceptors, others attending medical colleges, none of them meeting the requirements of the new, but all of them complying with the requirements of the old, law. By naming a date two years in the future, the new student of medicine could adjust his course of study so as to comply with the law when it should go into effect, and the old student could comply with the provisions of the old law, for the compliance with which he had been educated. It would seem that such a classification is not only based on existing conditions but is manifestly just, fair and right. The validity of such legislation has frequently received judicial sanction, and no condemnation, so far as I have been able to find.

The other objections that might be made to the act are fully covered by what has already been said, and will not be further considered.

OSTEOPATHY.

The validity of the amendment of 1898, respecting osteopathy, is the only remaining proposition to be considered. It is provided in that act that:

> Any person holding a diploma from a legally and regularly conducted school of osteopathy of good repute as such, and wherein the course of study comprises a term of at least twenty months, or four terms of five months each, in actual attendance at such school, and shall include instructions in the following branches, to-wit: anatomy, physiology, chemistry, histology, pathology, gynecology, obstetrics and theory and practice of osteopathy, shall, on the presentation of such diploma to the State Board of Medical Examiners and satisfying such Board that they are the legal holders thereof, be granted by such Board a certificate permitting such person to practice osteopathy in the State of Iowa, upon payment to said Board of a fee of $20, which certificate shall be recorded by the county clerk of the county in which the holder desires to practice, for which he shall receive a fee of one dollar.

It is further declared that the practice of osteopathy is not the practice of medicine within the meaning of the act just considered.

All such statutes depend for their efficiency on the penalty attached for the violation thereof and its exaction by public authority. In vain may the legislature define crimes and entreat the people to be good, unless penalties are attached to enforce observance. Fine and imprisonment are imposed for a violation of the act of 1897; but the act of 1898, for some reason, provides that the provisions of the act of 1897 shall not apply to the practice of osteopathy, and at the same time provides no punishment for one practicing osteopathy without the proper certificate.

There is, however, a provision in the Code of Criminal Procedure, which provides that "when the performance of any act is prohibited by any statute, and no penalty for the violation of such statute is imposed, the doing of such act is a misdemeanor." This act of 1898 does not in terms prohibit the practice of osteopathy without a certificate, and there is some question whether such prohibition can be implied from the language used so as to make the doing of such act a crime; but for the purposes of this paper we will assume that said section is applicable and supplies what would otherwise be a fatal defect, in the act under consideration.

We are now led to inquire: What act is prohibited? What is it that constitutes the offense? For what may a defendant be convicted? The statute says the practice of osteopathy without a certificate; but what is practicing osteopathy? What does the word "osteopathy" mean? I have examined the latest dictionaries, but find no trace of the word; works of science, but they are silent as the grave; the common law, but there no such word to designate an offense is known. Turning to the August number of the *Cosmopolitan Osteopath* we are informed that "a period of five short years embraces practically all of the history of osteopathy," and that "the name is derived from *osteon,* bone, and *pathos,* suffering." Neither the word osteopathy nor those from which it is derived throw the least light on the meaning of the statute. If any meaning at all is to be attached, it would probably be that the practice of osteopathy is the practice of bone suffering, which would hardly answer for the definition of a crime.

The word osteopath has neither a scientific nor a popular meaning. Probably most people know that it is the name of a new school of medicine, but of what the treatment consists there does not seem to be a popular conception. Thinking that my own information on the subject might not be a proper test of the popular standard, I inquired of twenty persons, lawyers, merchants, mechanics and day laborers, representative men of their respective occupations, and not one of that number was able to convey a definite conception of the mode of treatment. All understood the name to designate a new school of medicine, some thought drugs were not administered in the treatment of disease, but where to draw the line, or whether a line could be drawn, between such method of treatment and hydropathy, electrotherapeutics, suggestive therapeutics, massage, divine healing, faith healing, "Christian Science," oxydonor, oxygener, the various other methods of treatment, including the methods of the regular practitioner when drugs are not administered, no one was able to say.

By the act of 1897 it is provided that any person is practicing medicine "who shall publicly profess to cure or heal," but the act we are considering expressly declares that the practice of osteopathy is not the practice of medicine within the meaning of the former act. What was meant by the use of the former act. What was meant by the use of the word osteopathy after this legislative declaration can only be suspicioned, and I fancy that this legislative conception is as confusing to the osteopathic practitioner as it is to me.

The making of an act a crime is a legislative function. The act constituting the crime must be defined. In the trial of a criminal cause it becomes the judge's duty to define the crime as a matter of law, and it is for the jury to determine whether the defendant committed the act said by the court to constitute the crime. In the absence of a definition by the legislature, probably no two judges would agree as to what the legislature meant by osteopathy. The defendant's guilt would be determined by the surmise of the judge. In one court the defendant might be held guilty, and in another innocent, on the same state of facts.

A recent decision by the Supreme Court of Louisiana is in point:

> All crimes in Louisiana are statutory, and there can be no crime which is not defined and denounced by statute. The determination and definition of acts which are punishable as crimes are purely legislative functions, which can not be delegated to or exercised by the judiciary. This statute denounces as a crime, on the part of civil officers, "any misdemeanor in the execution of their respective offices." It does not on its face undertake to define, in any manner what acts are misdemeanors in office, and, unless there is some other law which furnishes such definition, there is no other source to which we can look for it except to the discretion of the judiciary, which, in each case brought before it, will be vested with determining

whether or not the particular acts charged, ranging from the most trivial to the most serious derelictions, from the malicious infractions of duty to the most innocent errors of judgment, shall or shall not be punished as a crime. This would operate a delegation to the judiciary of power purely legislative, in flagrant violation of the constitution.

Our own supreme court has declared that "Criminal statutes are inelastic and can not by construction be made to embrace cases plainly without the letter, though within the reason and policy, of the law." Clearly, no act of any character whatever is within the letter of this statute, and it can not be enlarged by the evident purpose of the legislation. In my judgment the act of 1897 is valid, and that of 1898 is uncertain, and for that reason the courts, in all probability, would hold it void.

MEDICINE AS A BUSINESS PROPOSITION.*

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CHICAGO.

(Concluded from p. 1321.)

READY-MADE DOCTORS AND PROPRIETARY MEDICINE FAKES.

The prosperity of the medical profession is being slowly, but surely, sapped by the manufacturers of quasi-patent medicines and secret preparations. The patent medicine fiend has appeared in a new guise. He now masquerades as a corporation for the manufacture of specifics and panaceas for the relief of ills that must have forever remained uncured were it not for his tender ministrations—his occult knowledge of chemistry, and superior pharmaceutic skill. The good old road to fortune via the patent medicine route is largely obstructed by others playing the game. The fakir, nothing daunted, has secured as cat's paws to pull his chestnuts out of the fire, reputable though foolish physicians. There is a peculiar trend in human nature in the direction of "cure-alls"—remedies that fit all diseases, work speedy cures and afford a royal road to recovery. This same peculiar mental bias exists in doctors. It is refined by education and experience, to be sure, but the doctor has it, and "has it bad," and Mephisto Proprietarius knows it. The doctor's experience often breeds a lack of confidence in his remedies, and his materia medica narrows year by year. Yet his patients clamor for relief, and in despair the doctor receives, with open arms, the fakir who agrees to furnish him with speedy cures.

Behold the result. The pharmacopeia is fast drifting into the valley of dead lumber. It is no longer necessary to know anything of materia medica and therapeutics—the fakir attends to all that for us. We are no longer offended by the gratuitous insult offered us by the proprietary medicine fiend, who knocks at our door and, with the implied insinuation that he furnishes brains for the medical profession, clutters our office tables up with samples, the labels on which tell us all about diseases and the only preparations that will cure them. Pah! How most of them smell! And what a nuisance they are.

But the fakir has done his work well. He has evolved the ready-made doctor—man of all work, aye, slave to the fakir. How gently flows the current of Doctor Readymade's professional life. No more incurable cases. No more midnight oil—for why should he be a slave of the lamp? No more worry. No more care. No more expenditures for books, journals and instruments. All the doctor has to do now-a-days is to read the labels on the bottles and boxes of samples the fakir brings him. Does the patient complain of stomach disturbance? He is given "Stomachine." Are his kidneys working overtime? "Kidneyol" is the proper caper. Is there a pain lurking somewhere in his economy? Give him one of these pretty little tablets with a hieroglyph on it, which nobody knows the composition of—so the firm that makes them claims. Oh, the practice of medicine is so easy now-a-days. Ready-made diagnosis and treatment—what could be simpler?

The proprietary medicine fakir begins his little song by assuring the physician that his wonderful preparation is for the use of the profession only. He is trying to introduce it "along strictly ethical lines." He has given the preparation a fanciful name and marked it with a special design "for the protection of the physician, who, of course, wants to know that his patient gets just what is ordered." What an imbecile the doctor is. The chief objects of the special name and hieroglyphic design are: 1, to induce the physician to order the preparation frequently, the name being catchy and easy to remember; 2, to let the patient know what is ordered, so that he can prescribe it for himself and friends without the aid of a doctor. Having popularized the preparation in this manner, the proprietary medicine man often advertises his wares directly to the public via the secular press. If the profession protests, the wily medicine man says: "Well, you endorsed it; the profession uses it; hence it is a good preparation and a benefit to humanity. Go to, you are bigoted and narrow-minded."

Now, my brethren, while the foregoing remarks are fresh in your minds, try and recall the facts regarding "Scott's Emulsion," and the "Midy Capsule."

Not all proprietary medicine men take the newspaper route—they don't have to. The cat's paw doctor does his work too well. Witness the "little joker" antipain tablet already mentioned. Probably ten times as much of this preparation is self-prescribed as is prescribed by physicians. It unquestionably contains drugs that should be taken only under medical advice, and yet physicians prescribe it in a manner which leads directly to self-prescribing by the laity. Is it possible that the Pharmacopeia offers no agent of equal or better merit? Has the manufacturer more wisdom than all the ages past—to say nothing of the present age of progress? Or is this an age of medical progress, anyway?

I herewith submit the proposition that the medical cat's paw is pulling the proprietary monkey's chestnuts out of the fire, every time he prescribes a proprietary article "protected" by special design and under a term that he who runs may read. The fakir laughs in his sleeve at the profession, and small wonder. It has come to pass that he owns us, and when his impudent agent demands a hearing at our offices, we are tacitly given to understand that our time is his by right. Perhaps it is, by right of conquest, for the medical profession seems to be thoroughly subjugated. The distributor of drug samples is always working in the business interests of his firm and himself. How would it do to insist on payment for our time from the agents of some of our irresponsible, mushroom fake-medicine factories?

There is another side to the picture. Drug manufacturers—even some of those engaged in the manufacture of quasi-proprietary medicines—have done much for pharmaceutic elegance and convenience. Many of our manufacturers are conscientiously proceeding along ethical lines. We are glad to welcome their representatives and their preparations. But, unfortunately, such manufacturers are a small minority. The physician should

*Lecture delivered at the public meeting of the St Joseph County Medical Society, South Bend, Ind., Jan. 30, 1900.

be careful how he prescribes the preparations of even reliable firms. Preparations with special and striking names should be prescribed under formula, where possible, and always in such a manner that the patient can not prescribe the preparation for himself offhand.

We have much for which to thank some of our manufacturers, in the way of elegant and reliable preparations—honor to whom honor is due. We should none the less, however, guard our own interests. The manufacturers can not always do so and sometimes will not. There is no objection to secret methods of preparation of medicine so long as the formula is known. The physician should know what he is prescribing. It is an insult to offer him any other class of preparations. When prescribing, I repeat, he should prescribe under a term comprehending the formula of the drug, or under his own cipher. Where the nature of the preparation is such that he can not do this, the doctor had best look elsewhere for a remedy.

OUR CO-LABORER, THE DRUGGIST.

The subject of the medicine fakir naturally leads to the question of our relations with druggists. Much has been said on this topic, but it is difficult to see wherein the status of our relations to our alleged co-worker has been improved thereby. Personally, so long as the drug business is overcrowded, as it is at present, I fail to see any possibility of improvement. Under existing conditions the motto of the druggist must necessarily be, "every man for himself." The pharmacist must live, and there's no way to live and be square with the doctor. Three things that are opposed to our interests the druggist must do or go to the wall: 1. Sell patent medicines. 2. Prescribe over the counter. 3. Charge exorbitantly for the medicines we prescribe. There is nothing in all this that is illegal, but it is opposed to the best interests of the profession. At first sight it appears an evidence of imbecility to send prescriptions to be compounded by a competitor. Yet we send them to the druggist, who is our most active competitor. Not only is he one directly, but he is often the agent of some other doctor or doctors whose merits he glibly contrasts with our demerits, for the edification of the patient. We tell him, time and again, not to repeat our prescriptions, but to no purpose. In some cases we know that he is giving commissions to one set of doctors while his clerks are getting commissions from practice sent to others, yet we stick to him. Now, there's but one solution of the problem. Every doctor who can should dispense his own medicines. The people like it, and the profession will soon learn to like it. The doctor can furnish medicines cheaply and still make a profit. The patient pays a bill for services and medicines much more cheerfully than one for services alone. Such success as homeopathy has attained has been largely along these lines. It is high time the regular took the hint.

Not the least of the good things that would result from the doctor doing his own dispensing would be the familiarity with his working tools thus acquired. Most men enter practice without the least knowledge of the physical qualities of the drugs they expect to use. Many a man has prescribed, over and over again, remedies he never saw, smelt or tasted. The best doctor is he who is most familiar with his curative agents. Another desirable result would be the doctor's renunciation of polypharmacy. He would soon learn that the number of serviceable drugs is by no means legion. Where a number of doctors occupy an office, they should have their own dispensary. When neither plan that I have suggested is feasible, the doctor should endeavor to find a druggist who, in consideration of having practically a monopoly of the prescriptions of that particular physician, will dispense his prescriptions on cipher and never without an order. It is possible to find such druggists. Self-interest is likely to induce them to treat the doctor fairly, when all other arguments fail. There is a peculiar advantage in this system in the fact that the doctors' favorite formulæ can be kept in quantities already prepared, thus saving time, and assuring uniformity in dispensing. Under such an arrangement, too, the druggist is able to be much more reasonable in his prices. He is also likely to keep such special preparations as the doctor may request, thus avoiding the temptation to substitute.

One thing is certain in the relations of doctor and druggist, viz., the time is not far distant when the doctor will either dispense his own drugs, or will boycot every druggist who counter-prescribes or sells patent medicines. The profession will not go blindly on forever, carrying grist to the other fellow's mill.

RELATIONS OF DOCTORS TO CORPORATIONS.

It is a time-honored observation that the doctor is about the cheapest professional commodity in the market. Especially is he cheap in his dealings with corporations. Nowhere is this more evident than in life insurance work. There is not a company in the field today that pays a decent sum for its medical examinations. The doctor is the watch-dog of the company's treasury. He stands between it and great financial loss. He protects it against fraud. A slight error or the least degree of negligence on his part may cost the company thousands and thousands of dollars. The issuance of a policy is a very important business transaction. The doctor stands in the same relation to it as does the lawyer who examines the abstract in a real estate deal. Contrast the fee allowed the medical examiner in a case involving the issuance of a $100,000 life insurance policy and that received by the lawyer who examines the abstract in a real estate transfer involving $5000, and my argument is complete. Some companies expect to secure all of an expert examiner's time—and actually get it—for $2000 to $3000 a year. It might be well to contrast, also, the commission received by the agent who writes the policy, with the medical examiner's fee.

In the case of our fraternal societies the examiner's fees are pitifully low, so low that a busy man can not do the work save at a great loss of time. There are some extenuating circumstances in the case of the cooperative societies. In the case of both old line and cooperative insurance, however, only the overcrowded and generally poverty-stricken condition of the medical profession can possibly explain the fact that good men are to be had so cheaply.

Railroad and manufacturing corporations have no difficulty in securing doctors to look after their interests at a rate so low as to reflect on the respectability of the profession at large. I know, for example, instances in which doctors are rendering for $300 a year, services that should bring several thousand dollars at very ordinary fees. In addition to this direct cheapening of professional values, the company or corporation surgeon is expected to go on the stand as expert and prevaricate in the interests of his employers. As a corollary, he is expected to testify against the interests of the poor fellow who, perhaps, as the result of the company's wilful neglect, has only the wreck of a once vigorous manhood with which to oppose the company's immense capital. And this the doctor does in an uncomfortable proportion of cases. When I say he "prevaricates," I hope I am correct. It would be pitiful indeed if the expert

opinions rendered by some corporation doctors were the result of ignorance. The corporation expert does not always prevaricate. The truth may be the best card to play. He had best not let the corporation catch him telling the truth, however, when said truth is prejudicial to its interests. There is an axe, my brethren, an axe that is ever ready.

Speaking of corporation surgeons reminds me of the fact that practice in the neighborhood of our large factories is rather poor picking for everybody. There is plenty of work to be done, and would be considerable income derived therefrom, but the corporation surgeon gets it all, and receives a mere pittance therefor. The corporation claims to employ a surgeon for humanity's sake. This is pure hypocrisy—the doctor is employed for its own protection. I know of cases in which, by the co-operation of the claim agent and the surgeon, an injured employee has been induced to sign away his manifest rights. He is usually denied the right to select his own surgeon. To the non-partisan medical observer, the bitter opposition of the average juryman to corporations is in no wise remarkable. I suppose it will be argued that there are plenty of honest corporation-doctors. Grant you that, brother, but I can not see how they hold their jobs.

FEES IN GENERAL.

If the profession is to be judged according to its own valuation, the low estimate of the value of medical and surgical services by the public at large is not to be wondered at. Especially striking is the low appraisement of fees in the West. The contrast between the East and West in this regard was recently impressed on me quite forcibly. I met, in the city of New York, a comparatively young practitioner who recently chanced to have under his care a young woman—daughter of a multi-millionaire—suffering with typhoid fever. He attended her assiduously, night and day for six months, and brought her through, or came through with her, most gloriously, and probably skilfully. With a courage that seems superhuman to a western doctor, our young friend sent in a bill for $5000. A check for the amount was promptly returned with a letter of thanks and a "bonus" check of $50,000. And now, brethren, you will forgive me if my style is a bit "wabbly" from here on. A Chicago millionaire would have "kicked" on the bill, insisted on its being cut down to $500 and, this being done, would have stood a suit rather than settle at his own figure. Exaggeration? Well, I don't know about that! One of our greatest "merchant princes" was under the care of a specialist friend of mine, and, as his own time was very valuable, demanded that the doctor let him in at his private door, ahead of all the rest of the patients. His bill at $10 a visit amounted to something over $300. The "kick" registered by our "prince" might have been heard in Alaska. Result, the bill was cut in two and the doctor has another enemy on the list.

But I can beat this case in my own experience: Another merchant prince, who is well known on State street —we will call him Mr. Bird, because that's almost his name and he is one—came to see me one day in this wise: He had heard that I had recently operated on a friend of his and removed a renal calculus. Would I show him the specimen? He then gradually developed the interesting fact that he had gall-stones and had been advised to submit to operation. What did I think of his case, and what about his operative prospects? Three-quarters of an hour slipped away, and my opinion in general had been obtained, when I suggested a physical examination. Oh, well, you see, it has grown so late that I will not have time to-day. I'll see you day after to-morrow," etc. That same evening, while riding to a case in consultation with one of my surgeon friends, that gentleman said, "Oh, by the way, Lydston, I'm going to operate on Bird to-morrow for gall-stones." And so it proved. I sent Mr. Bird a bill for consultation and he replied that he owed me "nothing," had "just made a friendly call," etc. I finally threatened suit and he paid the bill grudgingly, and as insolently as he dared at long range. Let me assure the reader that that $25 was a sweeter morsel than ten times the amount from any other source. Oh, how it must have hurt my friend Bird! I trust he will be a mine of wealth to my surgical confrère—he has "gall" enough to run a stone quarry in his hepatic apparatus for a hundred years to come.

The attitude of the average wealthy Chicagoan on the medical fee question was well shown a few years ago by the rumpus that was raised in the newspapers over a fee of $2000, charged by one of our leading experts in intubation, for a successful operation on a certain wealthy citizen's child. That numerous physicians arrayed themselves against the operator was by no means the least disgusting feature of the controversy.

Medical fees in Chicago have not yet shaken off the incubus put on them by the dollar fee of the medical "daddies." When Chicago was yet new, the fee question was practically settled by some of our medical pioneers whose influence has never been dispelled. The one dollar consultants were over-modest. We have always been ready to concede that such fees are an undervaluation of the aforesaid consultants' skill. The profession has ever refused to take some men at their own valuation —but it has suffered from the incubus just the same. Philanthropy has been advanced as an explanation of cheap fees. Quoth the experienced and distinguished low-priced man, "What would the poor people do if I made myself less accessible?" I'll tell you what the suffering public would do, most venerable and respected sir. It would go around the corner to that young doctor whose shingle you see swinging to the breeze, and pay more money for better service than you or any living man can give for the fees you charge. In general, the public gets just about what it pays for, save where the matter is one of absolute charity or dead-beatism. How any busy man can take the time for a careful examination and diagnosis of a case without asking a half-way respectable fee for his services is a problem I have never been able to solve.

Aside from the general cheapening of medical services, the doctor himself is often responsible for the direct depreciation of other physicians' fees. This is done in several ways: One method is to misrepresent the financial status of the patient whom he takes to an expert for consultation. It is not long since a physician called me up by telephone and arranged for me to see with him a "poor patient" who could only pay a small fee for consultation. The doctor happened to be late at the consultation, and I occupied the time in questioning the patient. I discovered that he was a wealthy stock raiser from the West, had paid my doctor friend a good fee already, and had arranged to pay him $200 more for the prospective operation—which I was expected to tell my friend how to do.

It is frequently the case that general practitioners call a consultant without making arrangements for the fee beforehand. It is unpleasant to spend half a day or night in consultation and then have the doctor say, "Now, doctor, these people haven't got much money, so don't charge them a large fee." The consultant there-

upon cuts his fee in two. "Well, doctor, I'll see that you get it in a day or two." But the consultant never gets it. Should he protest, the family physician says, "Don't be in such a hurry, doctor, I haven't got anything out of the case myself, yet." The above is an experience that I have had over and over again. How easy it would be for the physician who calls the consultation to see that the fee is ready when the consultant comes. It is my opinion, furthermore, that unless there is an understanding that the case is one of pure charity, the physician calling the consultation should be held responsible for the fee. The consultant can not always do so, but where possible he should stipulate beforehand that a certain fee be in readiness. The family physician who does not know that such a plan is best for his own interests is stupid.

An intolerable nuisance to the consultant is the doctor who writes a friendly letter asking for "the diagnosis, prognosis and treatment" of some case under his care. Rarely does he enclose a stamp, never a fee. The consultant who answers such letters, save to inform the writer that office rent can not be paid by such consultations, is laughed at for his pains. I have made many enemies by answering in this wise, but I love my enemies and have not injured the financial side of medicine thereby.

A more "pestiferous professional parasite" if possible, than the foregoing, is the doctor who refers a patient from a distance, with a request to send the bill to him. I have sent many such bills first and last—accent on the "last"—but have never yet received a remittance, nor do I expect my reward in Heaven. In the first place I am not so sure about getting there, and if I were, and knew that those doctor debtors were going to be there too, I—well, I'd ask for a change of venue. As for the patients who are accessories to such professional "hold-ups," a fellow wouldn't want to chase around all over hades to collect his fees from them.

As a final proposition on the fee question, the doctor should understand that no fee within the range of the patient's ability to pay is ever too great for medical services. The doctor is never in danger of being over paid. He should "temper the wind to the shorn lamb," but appearances are deceitful, and the doctor had best be in at the shearing, else there will be no wool for him. "Virtue is it's own reward" may sound very pretty, but it is not consoling in view of the fact that it gets no other in this life and its reward in the world to come is rather problematic.

EXCESS OF "BUSINESS ZEAL."

While still enrolled in the ethically-regular ranks of a profession whose standard is illumined by the quintessense of mawkish philanthropy, some of the brethren have gone to the other extreme and covertly adopted "business" methods that put Chatham Street to the blush. As for the dealer in second-hand clothing, who lies in wait for the unwary reuben in the purlieus of South Clark Street, he has cause to hang his head for very shame. Time was when the practice of medicine and surgery betokened a certain degree of modesty in heralding one's skill to the world, and waiting for patients was fashionable. It has come to pass that a certain proportion of the profession has divided itself into two parts, composed respectively of operators and "steerers." The operator offers a liberal commission to the doctor who steers cases to him for operation; 50 per cent. is the regular commission now-a-days. The steerer was contented with less, at first. In time he will want a still further increase. Finally, there will be no pay patients and the operator will be "hoist with his own petard." The steerer's gall is even greater than the operator's moral turpitude and business imbecility. One of my friends showed me a letter to-day from a barbarian of the tribe of "Get there Eli," in which the doctor who proposed sending him a patient said, "The woman will do just about what I tell her. She is business-like, and so am I. I think she will stand for $200. Now, if you can see any money in that after giving me $100, I'll send her to you, if not, why I know plenty of others who will take the case on those terms. She is my meat, and will go where I say. I am not charging $100 for my time, but for steering the case to you. This is my game and I can steer the case where I please," etc.

How is that for a *fin de siècle* medico-epistolary gem? Is it possible that an operator can afford to give up one-half of his fee as a commission? If so, the difference between fees and highway robbery is not perceptible to the average mind. Somebody is necessarily robbed. If the fee is just, the steerer robs the surgeon; if the fee is exorbitant, then the patient is robbed. What would the patient say if he knew of the deal? The commission practice is very poor business—and worse morals. The extent of the nefarious custom in our large cities is simply nauseating. It is possible that the adverse sentiment of the better class of practitioners may eventually serve to put a stop to this degrading practice. If not, there is a sure, albeit a disagreeable, way to check it, viz., by means of the public press. Should this recourse ever be demanded, there is much interesting material at hand. The possibility of unnecessary and unjustifiable operating under the stress of a large fee on the one hand and a large steering commission on the other, would make very interesting food for journalistic reflection. And so, friend steerer and brethren of the bisected fee, have an eye to windward and look out for squalls.

Even lower than the bisection of fees has the occasional doctor sunk. Over on the "great West Side" lives an undertaker friend of mine, who, in deference to his ancient and honorable vocation, we will call Mr. Watery Weeps. My friend Weeps has an eye to business; in faith, he has two eyes to business—both of 'em red; some say from "red eye" homeopathically applied. I do not believe this theory regarding Mr. Weeps' headlights. Their peculiar bicycle-lamp glow, like their excessive humidity, is due to his faithful, sorrowful "proxifying." In the course of my practice it did befall that a certain pulmonopathic vassal of mine—we will designate him as Mr. One-Lung, in so much as he had no other lung—did feloniously, with malice prepense and aforethought and intent to deceive, up and die. Having a corpse on my hands I naturally bethought me of my post-medical friend, Weeps, who undertaketh much in that vicinity. Weeps was prompt, and my late friend of the pulmonary solitaire was soon duly boxed and crated, ready for shipment to his ancestral home in "Injianny," whereupon quoth Weeps, lachrymosing his prettiest the while: "Ahem, Doctor, I am very much obliged to you for the favor you have shown me. I hope to do a large share of your business in the future. I expect a check for this job to-morrow, and will then extend to you the usual courtesies to the medical profession." "Ah," I replied, "and what might that be?" Why, 25 per cent. I call that pretty good, too, considering the hard times, don't you Doctor?" And my friend Weeps still thinks I was bluffing when I declined the

"usual courtesies." "Truth is strange, passing strange —stranger than fiction."

Time does not permit me to do full justice to the doctor whose motto is "get patients, honestly if you can, but—get patients." Sad it is that such birds are by no means rare. True it is, and complimentary to the American doctor, that these creatures are usually importations, whose foreign diplomas, having no standing in their own country, at one time permitted them to practice in any part of the Union, and even now permits them to practice in many parts of the country. The advancing requirements of our colleges and state boards are fast doing away with such fellows.

The man with a strictly business appetite for fame is, however, always with us, and who shall say him nay in his struggle "topward?" But should he not draw the line somewhere?

Such ambitious ones agree with that dear old philosopher, Michel de Montaigne, "That men by various ways arrive at the same end."

Some of these Machiavelli's have literary aspirations. I know of one of them who justifies his literary efforts by printing his portrait as a frontispiece for his reprints, and in turn justifies his portrait—full page—by condensing his subject matter to a page and a half. Conservatism impels him to present only such matter as has been oft and better said before, whilst his portrait is laid on the altar as a burnt offering, a mute and modest appeal to the "star-eyed goddess"—Science, whose unreasoning demand for original matter has wrecked so many fair hopes. And the goddess, seeing the portrait, needs no priestly intercession to call her attention to its originality.

Far away on the arid plains of Arizona stands a little white head-board, commemorative of the late Jack King —short card expert and erstwhile monte sharp. Thereon appears the sentiment, "Life ain't in holdin' a good hand, but in play' a poor hand well." Dost see the application, my brethren? A restless ambition may with unscrupulous hands so spread a teaspoonful of brains over the fair field of workaday life that the sunflowers of worldly success will grow, and grow, and choke the life out of everything beneath.

TACIT RECOGNITION OF MEDICAL FAKIRS.

In the good old days the regular profession ostracised him who consulted without that horrid bugaboo, the homeopath. It has come to pass that the regular lion has laid him down beside the homeopathic lamb. And when they rise again the mutton shall be no more, and the lion shall have waxed fat. The latter-day regular has gone farther, and hobnobbed, as on equal terms, with "osteopaths," "Christian Scientists," "faith healers," and others of their ilk. Not so? Oh, yes it is. It is not long since the Physicians' Club of Chicago invited representatives of these fakes to break bread with it, and formally discuss the merits and demerits of their fool theories as opposed to regular medicine. The affair was given great publicity in the newspapers, and the wise layman, reading thereof, laughed exceedingly merry and said, "What fools these doctors be." And, from a business, politic, and social standpoint, were they really so very clever? The Physicians' Club gave the fakirs standing in the public eye, and by inviting them to a joint discussion gave them professional recognition —a recognition they were not slow to use as a valuable advertisement. If a dinner invitation does not constitute social recognition, what does? I submit that the action of the Physicians' Club did more to further the interests of the fakirs that infest our city, than the fakirs themselves could have done in a year. Still, mistakes will happen, and the worst that can be said of the club is that it made a serious, impolitic, and unbusinesslike blunder. False dignity, I would have none of; "'tis but a mysterious carriage of the body to cover up defects of the mind;" but I fain would see the body medical possessed of too much true dignity to permit formal recognition of medical fakirs and their disciples.

It is much easier to direct attention to faults than it is to suggest remedies therefor. In most of the points that I have endeavored to make, the remedy suggests itself. In general, the remedy lies in an improvement of professional *esprit de corps*. With a betterment of this as a foundation, much can be done to improve the business aspect of medicine in its higher sense. The general disapprobation of the profession will eventually frown down the medical pirate, who considers his duplicity and knavery, "business." The time will come when professional co-operation in the broadest sense will be absolutely necessary if we would survive. A little of the spirit of trades-unionism might not be a bad thing. So far as the strictly financial aspect of legitimate practice is concerned, the sooner we impress the public with the idea that we appreciate our own market value and insist on its appreciation by the public, the better it will be for the profession. Once let it be understood that ours is a business-like and financially-sound profession, and the *hoi polloi* will give us the respect that is our due. If the profession at large would but send monthly statements of accounts, a great deal might be accomplished. The public should have frequent and pointed reminders that there is more than a philanthropic side to our labors. The doctor's wife and children deserve quite as much consideration as the layman's.

There is much in this lecture that may be unwelcome, but surely there is something which will appeal to the fair-minded, square-principled physician. Whatever judgment may be passed on it, however, my object has been to champion the cause of the high-minded, right-thinking, hard-working doctor—the under-dog in the battle of life.

I know that the world, the great big world,
From the peasant up to the king,
Has a different tale from the tale I tell,
And a different song to sing.

But for me—and I care not a single fig
If they say I am wrong or right—
I shall always go in for the weaker dog,
For the under dog in the fight.

I know that the world, the great big world,
Will never a moment stop
To see which dog may be in fault,
But will shout for the dog on top.

But for me, I shall never pause to ask
Which dog may be in the right,
For my heart will beat, while it beats at all,
For the under dog in the fight.

Perchance what I've said were better not said,
Or 'twere better I'd said it incog;
But with heart and with glass filled chock to the brim,
Here's luck to the under dog.

THE NEW children's hospital at Athens is arranged with twelve separate pavilions, each designed for a different disease. Four are reserved for contagious diseases.

CLINICAL REPORT.

GASTROENTEROSTOMY FOR CARCINOMA OF PYLORUS.

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The following case is reported to show the benefit of making a gastroenterostomy in cases of inoperable carcinoma of the pylorus, where the disease has advanced so far that the patient is starving to death on account of vomiting due to occlusion of the pyloric orifice.

Mrs. F., aged 45 years, the mother of four children, had enjoyed perfect health until two years ago, when she began to vomit after eating and felt slight pains in her stomach. This kept on increasing, and the patient began to lose flesh, until when I saw her, February 28, she weighed but 90 pounds. I found a mass in the region of the pylorus, about as large as a hen's egg, and advised immediate operation, explaining that I might be able to remove the entire area of disease, and if not, I would at least make an opening to allow the food to pass into the intestine, and prevent her from dying of starvation.

Two weeks later the patient came to the Waldeck Sanatorium, and at that time weighed 83 pounds. She vomited everything she took and suffered intense pain in the epigastrium. There was scarcely any bowel movement, as she could not retain sufficient nutriment to produce any. For five days previous to the operation I gave her 8 ounces of peptonized milk every six hours by the rectum, and this gave her stomach a rest and relieved her hunger and thirst. It was necessary to give her hypodermics of morphin every six or eight hours, to relieve pain.

I operated on March 20, making a median incision above the umbilicus; the pyloric end of the stomach was found adherent to the anterior abdominal wall, and also to the liver, making it impossible to remove all the diseased tissue. Even if it had been possible to make a pylorectomy I doubt whether the patient would have survived the shock, as her condition demanded very rapid work. I decided to do a gastroenterostomy and lifted the great omentum so as to reach the posterior wall of the stomach. The transverse mesocolon was torn through and the posterior wall of the stomach pulled through the opening. The jejunum was then cut about four inches below the end of the duodenum, and the distal end joined to the stomach by means of a 1 1/16 inch Murphy button. The proximal end of the jejunum was then joined to the side of the distal portion about four inches below the stomach, with a Murphy button of the same size, and the abdomen closed. Considerable difficulty was experienced in placing the stomach half of the button, on account of the fact that the patient began to vomit as soon as traction was made on the stomach.

For two days the outlook was very dubious, the patient having considerable pain and being extremely weak; however, she did not vomit, and was able to retain all the nourishment which was given her, which consisted of peptonized milk and broths. Rectal feeding had to be stopped on account of the rectum becoming irritable, two days after the operation, and all nourishment after this was by the mouth.

The buttons were passed on the tenth day, one passing twelve hours before the other. The appetite soon became ravenous, and the pain almost completely disappeared, but the patient began to cough, and it caused her considerable distress. This is a feature which I noticed in several other cases in which gastroenterostomy was done for the relief of inoperable cancer of the stomach, and I believe it to be due to the disturbance of the pneumogastric nerve.

The patient left the hospital on April 14, weighing 93 pounds, and has since been gaining at the rate of one-half a pound a day, until at the present writing, May 1, she weighs 101 pounds. She has not vomited once since the operation and eats everything that she fancies. In order to facilitate digestion, I gave her a mixture containing caroid and hydrochloric acid, as the analysis of the stomach contents showed complete absence of hydrochloric acid, and very little peptone. By this means she is able to digest large quantities of food without the slightest discomfort, and once more enjoys life.

In the several operations which I have done for the relief of inoperable pyloric obstructions, I found that the patients are more than pleased at the relief they get, and invariably state that they would prefer the entire discomfort of the operation, to one day of the misery which was present before the operation.

There is a marked difference between the cases in which we do the single or double anastomosis, as we are very likely, in those where the jejunum is simply joined to the stomach by means of a lateral anastomosis, to have the bile regurgitating into the stomach and causing vomiting; while, when we make a double anastomosis this unpleasant feature is avoided, because the bile meets the food four or five inches below the stomach as in the normal condition.

This case illustrates very forcibly the advantages of the Murphy button for anastomosis work, on account of the rapidity with which it may be introduced. This patient would undoubtedly have died on the table had I attempted to make two anastomoses by any of the suture methods.

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.*

VI.

The medical and pharmaceutical status of the medicinal articles heretofore considered may be easily estimated as compared with those remaining for consideration, viz.:

THE PHARMACEUTICAL SPECIALTIES.

Under this title are comprised all pharmaceutical or chemical preparations—not definite compounds—whose composition is well known, either through the name of the article or published formula. There are many articles having a descriptive name which are, however, more or less secret in composition through lack of adequate information on the part of the manufacturers. Such information has, however, been supplied by pharmacists and chemists who have examined these articles and reported their results. Based on such reports formulas have often been constructed, which not infrequently have been incorporated in the United States Pharmacopeia and in the National Formulary. Many of them have names not sufficiently descriptive, in order that they may be protected as trade-marks or copyrights, and in this lies the chief objection to these classes. They are divided into: 7. Pharmaceutical Specialties—Mixtures, and 8. Pharmaceutical Specialties—Simples.

MIXTURES.

This class may be divided into the following groups: 1. Preparations of official or unofficial formulas, i. e., chlorodyne, Warburg's tincture, etc. 2. Chemical solutions, syrups, elixirs,

* The first of this series of articles appeared in THE JOURNAL of April 21.

glycerites, etc., with proprietary names prefixed and suffixed. 3. Cod-liver oil emulsions or preparations as above. 4. Compound vegetable preparations of eclectic origin, as above, or under trade names. 5. Miscellaneous mixtures under trade names, simulating patent medicines and sold to the laity.

CHLORODYNE.

One of the earliest and by far the most celebrated of this group is the preparation known as "chlorodyne," originated by J. Collis Browne, a British surgeon, and sold as a "patent medicine" in England where yet Browne's widow and diver other persons perennially exhaust the possibilities of affirmative adjectives in assertions of their respective claims to "the only original formula," and in spite of the fact that the preparation has long been recognized in the British Pharmacopeia with a formula vastly improved over the original, which contained treacle and yielded an unsightly and unstable mixture. Having been used successfully in India against cholera, it attained great celebrity some forty or fifty years ago, and various formulas are published for its preparation. Whether or not owing to the lack of information on the part of the examiners or the lack of uniformity, owing to instability of the article itself, these formulas varied so greatly in the proportions of the active ingredients, that its introduction in the Pharmacopeia became a medical necessity. Some twelve years ago a comparative exhibit of a score or more formulas then in vogue in this country and in England was published in the pharmaceutical journals and the startling information conveyed that one formula would yield a preparation ten times stronger in the most active ingredient, viz., morphin sulphate, than some other popular formula; the desirability—nay, necessity—for some official standard in largely used and potent medicines was never more strikingly demonstrated. Uniformity in strength may not be absolutely uniformly attained by all employing the same formula, but it is self-evident that the chances for this *desideratum* are vastly in favor of the former as against the promiscuous employment of formulas of widely varying strengths and proportions. The following is the formula of the National Formulary:

Mistura chloroformi et cannabis indicæ compositæ—compound mixture of chloroform and cannabis indica—(Chloroform anodyne).

℞.	Chloroformi	125
	Etheris	35
	Tinct. cannabis indicæ	125
	Tinct. capsici	65
	Morphiæ sulphatis	2
	Ol. menthæ pip	2
	Glycerini	125
	Aquæ	65
	Alcoholis, q. s., ad	1000

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Dissolve the oil of peppermint in 500 c.c. of alcohol; add the chloroform, ether and the tinctures; mix and add the morphin, previously dissolved in the water and glycerin; finally add alcohol enough to make 100 c.c. Each fluidram represents .5 gm.—7½ minims—each chloroform and tincture of cannabis; .25 gm.—3¾ minims—of tincture of capsicum, and .01 gm.—1/7 gr.—of morphin sulphate. The "chloranodyne" of Parke, Davis & Co. is a similar preparation. The old well-known Hoffman's anodyne or compound spirit of ether is more simple in composition, containing 2.5 per cent. of ethereal oil in ether-alcohol.

WARBURG'S TINCTURE.

Somewhat similar in origin is the so-called Warburg's tincture, originated by one Dr. Warburg, a British surgeon, stationed in India. Warburg found that the antiperiodic effects of quinin were much enhanced through its administration in a mixture of bitter tonics, and formulated a tincture to be used as an adjuvant vehicle. The formula originally included aloes, which was found objectionable owing to its bitterness and to its cathartic effect and was therefore subsequently left out; two formulas being in vogue, one with and another without aloes. The following is the formula of the National Formulary:

Tinctura antiperiodica (sine aloe)—antiperiodic tincture; Warburg's tincture—(without aloes).

℞.	Rhei et angelicæ sem., āā	36
	Inula, crocus et fœniculi, āā	18
	Gentianæ, zedoariæ, agaric blanc, cubebæ, camphoræ, myrrhæ, āā	9
	Quininæ sulphatis	100
	Alcoholis, dil. (U. S. P.), q. s., ad	5000

The coarsely powdered drugs are exhausted with the dilute alcohol, by digestion for twelve hours, and in the liquid obtained by expression, the quinin sulphate is dissolved and dilute alcohol added to make 5000 c.c. of filtered tincture. Each 5 c.c. contains .1 gm.—1.5 gr.—of quinin sulphate. When the tincture with aloes is wanted it may be easily prepared by dissolving 1.75 grams of extract of aloes—the official so-called aqueous extract—in 100 c.c.; or 8 gr. in 1 fluidounce. The original formula directed by Warburg contained confectio Damocratis as one of the ingredients, which, owing to its complex preparation has been omitted in the present formula. From the fact that the formula included this confection, it is evident that Warburg simply adopted one of the most ancient polypharmacal compounds—*elixir ad longam vitam*—to his use, and added to it camphor. Numerous formulas for species—"teas"—for the preparation of this elixir appear in the old-time dispensatories and pharmacopeias, of varying proportions, but substantially as the above with the addition of galanga, the highly extolled-"East India tooth-ache root" of the traveling fakirs. Is there anything new under the sun?

The confectio Damocratis, a mixture of nearly every potent drug known to the ancients, the ultima Thulé of pharmacal knowledge, was superseded by the confection of Andromacchus, the rival body-physician of Nero, who improved the composition by adding to it the flesh of snakes, whence it derived the name of theriac—thyrus-snake. Originally the formula contained 137 ingredients, and after being in use over 1000 years appears in the Pharmacopeia of Valerius Cordus, 1546, with only 55 ingredients. This confection was the most famous medicine ever produced, as late as 1754 its annual preparation in Nuremberg being a holiday, the ingredients being exposed on the public market-square for one week for official inspection, the compounding being conducted under the supervision of the city dignitaries, amid great festivities, and the product being branded with the municipal arms. The formula for theriac of the French Codex to-day contains 57 ingredients, and it survives in the British and some other pharmacopeias as confection of opium, this drug being the most potent ingredient. Theriac is still largely used in this country as an ingredient in the species referred to by Germans and other Europeans as "Schwedisches Bitters," "Hjerne's Testament," etc., for preparing the elixir.

THE HYPOPHOSPHITES SYRUPS.

The second group comprises the larger number of the so-called "elegant" pharmaceuticals which appeared about 1870, and in the form of syrups, elixirs, wines, etc., became exceedingly popular with the medical profession. The earliest of the chemical syrups representing the tonic properties of the phosphorus then coming greatly in vogue were: "Churchill's syrup of hypophosphites," "Easton's syrup" and "Parrish's Chemical Food," the two first-mentioned being of English origin, the latter introduced by the well-known pharmacist, Parrish of Philadelphia.

The principal hypophosphite salt employed in the preparation of this syrup has always been, since first introduced by Dr. Churchill, the calcium hypophosphite and to this fact the difficulties attendant on the production of a satisfactory syrup are chiefly due. The calcium salt is rather sparingly soluble in water and for this reason a small quantity of citric or hypophosphorous acid is used to insure the complete solution of the salt in the water, in which the sugar is subsequently dissolved. The other salts which enter into the preparation, the sodium and potassium hypophosphites, are on the other hand so exceedingly soluble, the potassium salt being deliquescent, as to cause the throwing out of solution the calcium salt present in much the greater proportion, and the syrup consequently often precipitates and becomes unfit for use. When in addition to this contingency there is lack of care in the selection of pure salts—the commercial American makes being far from satisfactory products with but one exception—and the possibil-

ity of using "laundered[1] sugar," and instead of distilled water an article containing lime and other impurities, the preparation of syrups by hypophosphites is not so simple a proposition as it appears to be.

It is for this reason that several different brands of syrup of hypophosphites have received medical favor and preference over the preparation made according to the official process for syrupus hypophosphitum (U. S.), or syrupus hypophosphitum cum ferro (U. S.) the latter containing 1 per cent. of ferrous lactate as the most eligible iron compound to combine with the hypophosphites of calcium, sodium and potassium. The claims for superiority of these specialties are based on the purity of the hypophosphite salts employed and care in the preparation of the syrup so as to produce stable, eligible and therapeutically satisfactory preparations.

IRON, QUININ AND STRYCHNIN COMBINATIONS.

Under the name of Easton's syrup, a preparation was introduced in England, which became official in the United States Pharmacopeia of 1880, and was retained in that of 1890, now official under the title, "syrupus ferri, quininæ et strychninæ phosphatum." It contains about 2 grs. of quinin sulphate, 1½ grs. of ferric phosphate and 1/90 gr. of strychnin in excess of phosphoric acid in each fluidram. The formula of 1880 contained 1/34 gr. of strychnin in 1 fluidram. That of the British Pharmacopeia contains 1/32 gr. of strychnin in a fluidram, a strength entirely too great for a syrup which may be taken in tablespoonful doses and then produce the most serious results.

The elixirs of iron, quinin and strychnin, phosphates and pyrophosphates respectively are more stable and satisfactory preparations. The National Formulary gives the strength of the first mentioned as being in each fluidram 1 gr. of phosphate of iron, ½ gr. of quinin, and 1/64 gr. of strychnin. The elixir ferri quininæ et strychninæ (N. F.), made with the tincture of citrochlorid of iron, or the so-called "tasteless tincture of iron," contains only 1/100 gr. of strychnin in each fluidram, and is by far the most eligible and stable of these various elixirs.

FELLOWS' SYRUP OF HYPOPHOSPHITES.

A preparation of similar composition, "containing potash, lime, iron, manganese, quinin, strychnin and phosphorus combined in the form of a syrup with a slightly alkaline reaction," under the name of "Fellows' Compound Syrup of Hypophosphites," has been very extensively employed by the medical profession. The exact formula has never been disclosed but recently the manufacturer furnished the information that the syrup represents 1/64 gr. (.001) of strychnin in each fluidram —4 c.c. The preparation has been repeatedly examined, and, based on these results, the following has been introduced in the National Formulary:

SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

R.	Calcii hypophosphitis	35	
	Potassii et sodii hypophosphitis, āā	17	5
	Ferri et mangani, āā	2	25
	Potassii citratis	5	
	Acidi citrici	2	
	Quininæ hydrochloratis	1	125
	Tinct. nucis vomicæ (U. S. P.)	22	
	Saccharæ	775	
	Aquæ, q. s. ad	1000	

The iron and manganese salts are triturated with the potassium citrate and citric acid, and dissolved in 60 c.c. of water with gentle heat. To the other salts, previously mixed, add the sugar and the first solution, the tincture of nux vomica, and finally water sufficient to make 1000 c.c. of the syrup. Each fluidram contains 2 grs. of calcium hypophosphite, 1 gr. each of potassium and sodium hypophosphites, 1/8 gr. each of iron and manganese hypophosphites, 1/16 gr. of quinin hydrochlorate, and 1¼ minims of tincture of nux vomica. This preparation contains the equivalent of 1/32 gr. (.002) of the alkaloids of nux vomica in each fluidounce and should therefore be at least one-fourth weaker than the syrup of Fellows.

These hypophosphite preparations should give the formulas, that is the quantities of the active ingredients in the ordinary dose. Since they are known by descriptive names they are not amenable to the objections directed against those preparations designated by more or less arbitrary or fancifully constructed trade names. There is no objection, therefore, from a medical standpoint, to the employment of these preparations whenever equally excellent official preparations can not be obtained.

1. In granulating sugar ultramarine is often added for the purpose of correcting the yellow color and to give the article a "dead white" appearnce, as is practiced in laundrying white goods. The blue, though present in insignificant proportion, is a sharp reagent and causes much trouble in chemical syrups.

Therapeutics.

Treatment of Hemorrhoids.

Non-operative or palliative treatment consists primarily in keeping the parts thoroughly cleansed by bathing with warm water and castile soap, and in applying some soothing and astringent lotion during the acute inflammatory stage. The Messrs. Allingham advise for this purpose the following:

R. Strong subacetate of lead solution ..... ℥i
Tincture of opium ..... ℥ss
M. Sig. One teaspoonful of the lotion to be mixed with one wineglassful of milk, and applied frequently to the anus.

Another formula, which has been found very useful, is as follows:

R. Fluid ext. hamamelis ..... ℥i
Fluid ext. hydrastis
Compound tinct. benzoin, āā ..... ℥ss
Tinct. belladonna ..... ℥i
Linseed or olive oil, carbol. (5 p.c.) q. s., ad... ℥iii
M. Sig. Apply often to the parts.

Hot or cold applications are often of service. Chas. B. Ball, F.R.C.S., considers the local application of a mixture of the extract of belladonna and glycerin, smeared over the anus, and followed by a warm stupe, the best palliative treatment for external hemorrhoids. In addition, the bowels should be freely moved, and a light, easily-digested diet, with rest in bed, prescribed. Any of these remedies will, as a rule, cause the inflammation to subside within a few days, but usually a thickened tag of skin is left, which is liable at any time, on the slightest provocation, to become inflamed.

INJECTION TREATMENT.

R. Acidi carbolici ..... ℥iss
Acidi salicylici ..... ℥ss
Sodii boratis ..... ℥i
Glycerini (sterilized) q.. s. ad ..... ℥i
M. et ft. sol. Sig. Injection for hemorrhoids.

Of this fluid from two to four minims are injected into the base of the hemorrhoid. If other injections are to be made, they are made in from three to five days.

Painless Treatment of Buboes.

Buboes, when suppurating, may be opened painlessly by first injecting beneath the skin a 3 per cent. solution of beta-eucain. After evacuation a 5 per cent. solution is poured into the wound, and after a few minutes curetting may be performed lightly without pain. One dram of solution may be thus used with safety. To obviate the prick of the hypodermic needle in very sensitive subjects, first spray with ethyl chlorid. —*Dalton: Therapist.*

Treatment of Exophthalmic Goiter.

According to Stewart (*St. Louis Med. and Surg. Jour.*, May), the first injunction as to treatment should be rest, the next attention to the circulation. The two remedies that are invaluable are digitalis and strophanthus, given in doses of 5 minims three to six times a day. Medical treatment, however, is usually unsatisfactory. Ergot is recommended by some; belladonna, either the fluid extract or atropin, should be given three or four times a day or until dryness in the throat appears. Spartein has proved of some value, but is not a very useful drug and should be left as a last resort. Another remedy is carbozolate of ammonia in pill form, beginning with a small dose and very gradually increasing it for two or three weeks. Tincture of iodin in 30-minim to 2-dram doses three times daily or iodid of potash has been used. The ice-bag or Leiter's tubes frequently applied over the heart or lower part of the neck will materially reduce the pulse. Electricity has been of considerable value in some cases, in the form of galvanization of the cervical sympathetic and the cardiac region.

Good effects have been reported from quinin, belladonna and ergot and also silver nitrate in 1/8-gr. doses after meals. The anemia should be met with iron and arsenic. The nutrition of the patient should be looked after. Thyroid extract has not been satisfactory, and Stewart thinks surgery gives most promise of good results.

Cystitis in Women.

Dr. A. H. Cordier, of Kansas City, writing on this subject, says:

In the treatment of cystitis, the constitutional as well as the local symptoms should receive most careful attention. During the acute attacks the patient should be encouraged to take large quantities of water. This dilutes the urine, thus making it less irritating to the hypersensitive mucous membrane. All articles of diet, as asparagus etc., that act more or less as irritants to the bladder, should be left from the diet list. The bowels should be moved with a saline cathartic, Epsom salts being the best; the rectum should be kept free *from* hardened feces, the patient being placed in bed if the case is a severe one. Remedies directed toward the easing of pain should be resorted to. I would avoid opiates as much as possible, but in their place give the bromids, chloral, cannabis indica, triticum repens, etc. I would not disturb the bladder by treating it locally in the very acute cases. If the disease is first seen in its chronic or subacute stage, most cases require, in addition to the constitutional treatment, a careful application of local remedies. This is best carried out by inspection through the cystoscope. If the cystitis is of gonorrheal origin I have found nothing that acts better than a saturated watery solution of picric acid applied directly to the inflamed surface. Some cases are much benefited by local application of 10 gr. of silver nitrate thrice weekly or a similar solution of protargol. I have not derived much benefit from boric-acid washes, even though used faithfully in many cases. Very weak solutions of potassium permanganate have acted much better in the chronic cases as an irrigating fluid than boric-acid solutions.

Methylene Blue in Gonorrhea.

According to the *Med. Record* (THE JOURNAL, ¶ 31, p. 866), O'Neill, of New York, says that methylene blue administered internally will cure gonorrhea in from four to seven days. To the diplococcus it is especially fatal, while the pyogenic bacteria, that make gonorrhea a mixed infection, succumb very promptly to this germicide. It is best given in gelatin capsules, in 1-grain doses three or four times a day. After the fourth day the dose may be reduced to twice a day. Given alone it sometimes causes irritation of the neck of the bladder, but when combined with oil of nutmeg there is no trouble of this kind; oil of sandalwood is a valuable adjuvant, because of its diuretic action and also on account of its sedative effect on inflamed mucous membrane. Troublesome gastric symptoms may be avoided with the following formula, which has given uniformly satisfactory results:

℞. Methylene blue ..... gr. i
Oil of nutmeg ..... gtt. i
Oil of sandalwood ..... gtt. ii

This is given in a gelatin capsule, but never for longer than ten days without intermission, and while taking it the patient should drink freely of water. In no case has the author found it necessary to continue treatment for more than ten days. The mission of the methylene blue is accomplished when it has destroyed the bacteria of suppuration. Positive results from preventive treatment of gonorrhea are not obtainable, still the author believes with Dr. Flint, whom he quotes, that "it is a reasonable scientific proposition that methylene blue would probably act as a prophylactic against gonorrheal infection in impure intercourse."

Treatment of Myocarditis.

Martin Mendelsohn believes that whatever the cause of myocarditis, be it diphtheria or other infectious diseases, alcohol, phosphorus or syphilis, says the *Brit. Med. Jour.*, the clinical symptoms are always those of a weak heart and require the same treatment; in any case they depend on an inability of the heart to meet the demand made upon it. Thus, supposing the demands to be excessive, they may produce symptoms of myocarditis in a heart previously healthy. In slight cases the symptoms occur only when unusual bodily or mental exertion has been made. In the later stages they are permanent. The physical signs vary, but generally consist in hypertrophy of the left ventricle, with accentuated sounds if compensation is present, or in dilation with weak sounds if it is not. In the treatment all excessive bodily or mental exertion must be avoided, as well as the habitual use of coffee, tea and tobacco. Oertel's treatment, which consists in systematically increasing the power of the heart by exercises, and reducing corpulency by restricting the fluid drink, acts well in obese, but otherwise healthy, patients; but, since it is impossible to eat much without drinking, is not suitable for debilitated patients, where, especially at the beginning of the complaints, absolute rest in bed is the chief remedy, and restores compensation. Later, each patient must aim at keeping his heart exercised by bodily and mental work, while avoiding overexertion. Other important factors are life in an even temperature and pure air, regulation of the bowels, and frequent, though small, meals. Acute attacks of vertigo, palpitation, dyspnea, and cyanosis are best treated with ether and caffein. In chronic cases, drugs must be given with caution, and digitalis should be reserved for those where compensation fails; in others, caffein, convallaria majalis, adonis vernalis, sodium nitrite or potassium nitrite may be tried. Occasionally ergot acts well by its tonic action on the muscles of the smaller vessels.

Strontium in Exophthalmic Goiter.

The *Riforma Medica*, for March 24, gives the following formula:

℞. Strontium bromid ..... 6 parts
Strontium iodid ..... 12 parts
Distilled mint water
Syrup of mint, āā ..... 20 parts
Distilled water ..... 40 parts
M. Sig. A coffeespoonful three times a day.

Headache in Neurasthenia.

℞. Zinci valerianatis
Ferri sulphatis
Ext. rhei
Asafetidæ, āā ..... gr. xviii
M. ft. pil. No. xx. Sig. One three times daily.

Painful Menstruation.

℞. Codeinæ ..... gr. ¾
Chloralis ..... gr. xv
Ammon. bromidi ..... gr. xv
Aquæ camphoræ ..... ʒi
Mi Sig. To be taken while lying down.

—*Gaz. Hebdomadaire de Méd. et de Chir.*

An Intestinal Astringent.

Eugen Doernberger recommends as an intestinal astringent, especially for children, tannopin, which is a condensation product of tannin and urotropin. The dose for children is gr. viiss three times daily, for adults gr. xv three times a day. The dose must be regulated for the individual case. It is especially applicable to children, since it is tasteless; its greatest disadvantage is the expense. —*Med. Record.*

Treatment of Measles with Red Light.

THE JOURNAL has referred to Chatinière's announcement that red light has an abortive influence on measles (vol. xxxi, p. 1129). In *Presse Med.* of April 28, he reports nine more cases treated exclusively with this phototherapy; the windows covered with red curtains and the room lighted at night with a photographer's red lantern. In each case the disease was unmistakably aborted. The eruption disappeared in six hours in most instances; fever, laryngeal and bronchial manifestations were promptly attenuated, and patients had recovered and were allowed to go out of doors by the third to fifth day after first manifestations of the disease. The eruption disappeared first on the regions exposed to the light. He suggests that the effect may be due to the reinforcing of the natural powers of the organism by the action of the red light. He has noted marked nervous phenomena in workmen employed in making photographic plates by red light. Some neurologists claim that red is force-producing. It is a custom in the Caucasus to dress the children in red garments in case of eruptive disease, especially measles.

Bathing Treatment in Chronic Kidney Affections.

Dr. Groedel, of Bad Nauheim, says that this treatment is contraindicated: 1. In cases of chronic parenchymatous nephritis, and in cases of secondary contracted kidney in which there is from time to time an increase in the albuminuria, indicating an exacerbation of the parenchymatous affection. 2. In cases of contracted kidney with marked circulatory disturbances, congestion, dyspnea, etc. 3. In cases of contracted kidney accompanied by a high degree of arteriosclerosis, and, finally, in cases in which there is an apoplectic tendency and in which there has been an attack of pulmonary edema. Only those cases of contracted kidney in which the circulatory disturbances are mild are benefited by the treatment.

Treatment of Scarlatinal Nephritis.

In a communication presented at a recent meeting of the New York Academy of Medicine, Kemp (*Medical Record*, April 14, p. 657) advised that in the presence of pulmonary complications due to nephritis in the course of scarlet fever oxygen should be employed from the beginning. As it is a good cardiac stimulant and aids in the elimination of toxins, it should prove of value also in cases unattended with pulmonary complications. Enteroclysis, with the water at a temperature between 110 and 120 F., may be employed for periods of from fifteen minutes to an hour, and as often as three or four times a day. Hypodermoclysis and saline infusions are also useful. Carbonated baths may be recommended for uremic conditions, with the water at a temperature of 98 or 100 F.

Apocynum in Pleurisy.

An observation of pleurisy with a large effusion, "satellite of incipient tuberculosis," is related by F. Combemale, in *Echo Méd.* of April 22, which was cured without surgical intervention and with remarkable promptness by stimulating diuresis with twenty drops of fluid extract of apocynum cannabinum daily. Four liters of urine were evacuated the first day, then 3½, 3 and 2. An indirect, cardiovascular diuretic is required, the conditions being a serofibrinous pleurisy with large effusion just attaining its maximum, a heart responding well to medicinal intervention and the kidneys rapidly and abundantly permeable.

Methylene Blue in Grave Malaria Cachexia.

Cardamatis, of Athens, writes to the *Progrés Médical* that he has found methylene blue very effective in the early stages of severe malarial cachexia in cases rebellious to quinin. He recommends it warmly for its action not only on the malarial plasmodium, but also on the consequences of the infection, through its regulating effect on the functions of the kidneys. A typical observation is described, of a child affected with la grippe, traumatic perisplenitis and dysenteriform diarrhea, leading to revival of a light, malarial infection contracted during a stay of a few days in a malarial region a year before, which terminated in grave malarial cachexia and gangrene. The prompt efficacy of methylene blue combined with tepid hydrotherapy was thoroughly attested in this and in other cases in his experience.

Sodium Cacodylate in Tuberculosis.

M. Letulle has been testing sodium cacodylate on a large scale, and announces that his results have been extremely encouraging. Patients with open tuberculosis have improved more rapidly and the improvement has been more permanent than under any other treatment. He follows Gautier's directions, described in THE JOURNAL (vol. xxxiii, p. 99), and reports some typical observations in *Presse Méd.* of April 28.

Treatment of Valve Pneumothorax.

Even when there is a perforation from the lung into the pleural cavity, air does not enter the latter except when forced in by efforts of coughing. Consequently the cough must be prevented, and in a recent communication (*Bull. Soc. des Hop.*, April 12) A. Beclère advocates subcutaneous injections of morphin for this purpose. He also describes a contrivance for diagnosis and treatment, which has rendered him efficient service: a hypodermic needle connected by a rubber tube with a glass tube bent into an L. The longer end is inserted in a test-tube filled with water. Capillary puncture of the pleura in an intercostal space with this contrivance not only serves to differentiate valve pneumothorax but also to cure it, allowing the escape of the accumulated air without danger of subcutaneous emphysema.

Sodium Salicylate Upon the Biliary Secretion.

A report taken from the Société de Médecine et de Chirurgie Pratiques, the author's name not being given, contains fourteen conclusions, among which are: That under the influence of the drug a slight diminution in diuresis is noted, and an increase in the coloring matter, uric acid, and acidity of the urine. The biliary secretion is increased, as are also the phosphoric acid and fixed matters. The property of the drug in increasing the activity of the biliary function, and the known property of the bile in retarding products of fermentation in the intestine even when it contains no salicylate of sodium, together with the other properties of the drug make its application of great interest in pathology.

—*Jour. de Méd. de Paris.*

Persistent Hiccough.

℞. Strychninæ sulphat ..... gr. 1/40
Camph. monobrom ..... gr. ½
Hyoscyaminæ ..... gr. 1/50
M. Sig. For one dose. Repeat according to indications.

—*Med. News.*

Medicolegal.

Still Deemed an Intentional Injury.—The Supreme Judicial Court of Maine holds, in Matson vs. Travellers' Insurance Company, that, where an accident insurance policy contains a provision that the insurance shall not cover "intentional injuries, inflicted by the insured or any other person, except burglars or robbers," the insured can not recover of the insurer for injuries intentionally inflicted upon him by another, not a robber or burglar, who made an assault upon him, even if the injury sustained was not precisely that intended, provided the act was intentional, was directed against the insured, and some injury to him was intended.

Affidavit of Physician Not Conclusive.—The Supreme Court of Illinois holds, in Modern Woodmen of America vs. Davis, that the right of a beneficiary to recover on a benefit certificate can not be conclusively determined from the affidavit of a physician filed by her because the rule of the order requires it to be filed. Nor is she precluded from combating the truth of the affidavit of the physician. Here the certificate in question contained a provision that it should become void if the assured member should become so far intemperate as to prematurely impair his health or to produce delirium tremens, and the affidavit of the physician who attended the assured during his last illness, filed in obedience to a rule of the order issuing the certificate, stated that the immediate cause of his death was acute alcoholism. Yet the court does not consider that this was conclusive of the beneficiary's rights. It says that proofs of death, if in compliance with the requirements of the order, form a legal basis for an action on a certificate issued by the order, even though the proofs contain matter damaging to the case of the beneficiary. The real cause of death remains a question of fact, in the elucidation whereof the beneficiary is not restricted to the testimony of the physician. So it holds here that whether the decedent had indulged in the use of intoxicating liquor so as to permanently impair his health or produce delirium tremens was a question of fact, and the jury having determined it in favor of the beneficiary, the court affirms a judgment entered for her.

When Must Pay for Maltreatment by Physician.—On the appeal of the City of Dallas vs. Meyers, in an action brought by the latter party to recover damages for personal injuries alleged to have been sustained by a fall on a defective sidewalk, it was urged that the charge to the jury permitted a recovery for increased injury resulting from the maltreat-

ment of the attending physician, provided the party suing exercised reasonable care to select a competent physician, and followed such physician's directions as to treatment, and that this was error. But the Court of Civil Appeals of Texas answers that the proposition involved a question of proximate cause. If the injured party, in good faith, and in the exercise of ordinary care, employs a physician to treat his injuries, and his injuries are aggravated through the mistake or negligence of his physician in his treatment, the negligent or mistaken treatment of the physician, the court holds, does not become an intervening cause, breaking the causal connection between the negligence producing the original injury and the ultimate effects of such injury. In such case, it maintains, the injured party may recover damages for the injury he has sustained, including the aggravation resulting from the negligence of his doctor.

Quarantine of Double House.—The Michigan case of Highland vs. Schulte and others, who constituted the board of health, was brought to recover damages by a man, who resided with his family in the east half of a double frame dwelling in Detroit, on account of being quarantined because of a case of smallpox found in the family residing in the west half of the building. There was no passage from one tenement to the other, and the back yards were separated by a high board fence. Nor was there anything to show that the plaintiff or any one in his house had been exposed to the disease, which, however, was epidemic in the city at that time. The order of the health officer, directing that the entire building should be quarantined, was made under a general regulation adopted by the board of health providing that, in all cases where smallpox broke out in one half of a double frame house, the entire house should be quarantined. It was contended, for one thing, that it was beyond the authority of the board to make such a rule. But the Supreme Court of Michigan, which affirms a judgment for the defendants, holds that it was proper for the board of health to make the rule complained of, and delegate to the health officer the examination of conditions and enforcement of the regulation, as from the nature of things, the board could not act collectively on each case that might arise, with the necessary promptness and efficiency. Furthermore, it says that it needs no lengthy discussion to show that the public welfare requires more prompt and stringent measures to prevent the spread of an infectious disease in large cities than is required in rural districts or villages.

Proper Case to Refuse to Order Examination.—One of the grounds of error alleged in the Illinois Central Railroad Company vs. Clark, an action originally brought by the latter party to recover damages for personal injuries, was a refusal of the trial judge to require the plaintiff in the lower court to submit to an examination of his foot by physicians in the presence of the jury. It, however, appeared that he was willing to submit to such examination at the hands of a certain named doctor, or perhaps other doctors, but objected to such examination by the railroad company's physicians. Besides, the evidence showed that he was examined by the company's physician soon after the injury occurred, and by another physician who was not unfriendly to the company, if not in fact in its employment. It also appeared that the injured foot was exhibited to the jury. Under these circumstances, the Court of Appeals of Kentucky says that it does not consider that the trial judge was guilty of any abuse of discretion touching the examination asked for, it being largely within his sound discretion whether he would order such an examination, subject to having his decision reviewed or reversed in case of an abuse of that discretion.

Mere General Practitioner Not Eligible.—The California act of March 31, 1897, entitled "An act to establish a state lunacy commission, "etc., which is called in the first section thereof the "insanity law," provides for medical superintendents for what it terms the "state hospitals." As to the qualifications of such superintendents its language is as follows: "A medical superintendent, who shall be a well-educated physician, a graduate of an incorporated medical college, of good moral character, and who has not less than three years' experience in the care and treatment of the insane." Now this, the Supreme Court of California holds, in People vs. King, does not include a mere general practitioner, who, in the course of his practice, occasionally meets and prescribes for a person afflicted with some mental disease, and who is not, and does not pretend to be, a specialist in insanity cases, and who has not made the care and treatment of the insane a special study, nor followed it, for any length of time whatever, as a special vocation. As to whether or not the appointee must have been employed for three years in some asylum or institution, either public or private, used exclusively for the confinement and treatment of insane persons, the court does not consider it necessary to decide here, although, it says, the use of the word "care" as well as "treatment of the insane" very strongly suggests that conclusion. Moreover, an effort was made in this case to prove the insanity law unconstitutional. It was attacked, first, as being special legislation, and not having a uniform operation; and, second, as embracing subjects not expressed in its title. But it is held not unconstitutional on either of these grounds.

Not Considered a "Graduate."—Richard Metcalfe made application to the Michigan State Board of Registration in Medicine for registration as a medical practitioner under act 237 of the Public Acts of 1899. His application was refused. He then made application for a writ of mandamus to compel said board to register his name and grant him a certificate of registration under the provisions of section three of the act, subdivision one of which provided that the applicant should be registered and given a certificate if he should present sufficient proof within six months after the passage of the act of his having already been legally registered under act No. 167 of 1883, as amended in 1887. He produced proof of having been registered in February, 1897, under the earlier act, and insisted that the board was not authorized by the act of 1899 to look behind the fact of previous registration to ascertain whether he was entitled to be registered, although he conceded that the law of 1899 was within the police power of the state, and that the legislature might have vested the board with full power to investigate the right of the applicant to registration. But, before passing upon the case, the Supreme Court of Michigan says that, inasmuch as the provision relied upon required as a prerequisite to registration without examination that the applicant should have been "already legally registered," it was necessary to turn to the earlier act to ascertain whether he was "legally registered." This provided that every graduate of any legally authorized medical college in any one of the United States should be deemed qualified to practice medicine and surgery after registration, and that the latter might be obtained in certain cases by the filing of an affidavit showing certain facts. Thereunder an affidavit was filed by this party which was as follows: "State of Michigan, County of Berrien, ss. Richard Metcalfe being duly sworn deposes and says, that he is a physician and actually engaged in practice in the county above named, and that he has been so engaged for the period of ten years and —— months; also, that he is a graduate of Independent Medical College, a medical college located at Chicago, in the State of Illinois; that he attended said college for the period of one day during the examination and graduated therefrom February 4th, A. D. 1897. Deponent's present residence and place of business is St. Joseph in said county, and he belongs to the Physio-Medical School of Medicine. That he practiced under Dr. Hugons for a period of ten years. [Signed] Richard Metcalfe." This was subscribed and sworn to February 5, 1897. Now this leads the Supreme Court of Michigan to state that if it is able to say that a showing of attendance for one day only and the grant of a diploma by a so-called medical college does not constitute the fortunate recipient of such a certificate a graduate within the meaning of the law of 1887, it follows that on the face of the record of Berrien county this applicant was not legally registered. And it declares that it does say it, and that it follows that he was not entitled to the relief prayed.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.

American Academy of Medicine, Atlantic City, N. J., June 4.

American Medical Publishers' Association, Atlantic City, N. J., June 4.

American Medical Editors' Association, Atlantic City, N. J., June 4.

Association of American Medical Colleges, Atlantic City, N. J., June 4.

Medical Society of New Jersey, Atlantic City, N. J., June 4.

New Mexico Medical Society, Santa Fe, June 5.

American Association of Acting Assistant-Surgeons, U. S. Army, Atlantic City, N. J., June 6.

Rhode Island Medical Society, Providence, June 7.

Medical Association of Delaware, Rehoboth, June 12.

Massachusetts Medical Society, Boston, June 12-13.

Oregon State Medical Society, Portland, June 26-27.

Colorado State Medical Society, Denver, June 13.

Maine Medical Association, Portland, June 13-15.

South Dakota State Medical Society, Aberdeen, June 14.

Indian Territory Medical Association, Wagoner, June 19-20.

Wisconsin State Medical Society, Milwaukee, June 20.

Third District Branch of the New York State Medical Association, Binghamton, N. Y., June 21.

Second District Branch of the New York State Medical Association, Schenectady, N. Y., June 28.

CONGRESS OF MIDWIVES.—The legislature of Finland has authorized the organization of a congress of midwives, which will meet at Helsingfors in June.

FAYETTE COUNTY MEDICAL SOCIETY.—At the recent meeting of this Society, in Fayette, Ind., May 8, Dr. A. R. Rogers of Oelwein was chosen president.

WORCESTER DISTRICT MEDICAL SOCIETY.—At the annual meeting of this Society, held in Worcester, Mass., May 9, the following officers were elected: president, E. R. Wheeler; secretary, L. C. Miller; treasurer, George O. Ward.

BRISTOL SOUTH DISTRICT MEDICAL SOCIETY.—This Society, at the meeting held in New Bedford, Mass., May 10, elected the following officers: president, W. A. Dolan; vice-president, M. H. Leonard; secretary and treasurer, A. J. Abbe.

HAMPSHIRE MEDICAL SOCIETY.—At the meeting of this Society, held in Northampton, Mass., May 9, the following officers were elected: president, J. A. Houston; vice-president, C. R. Gardener; secretary, J. C. Fahey; treasurer, A. H. Hoadley.

WASHINGTON COUNTY MEDICAL SOCIETY.—The members of this Society met recently in Washington, Pa., and elected the following officers: president, J. B. Irwin; vice-president, R. E. Connor; secretary, J. A. McKean; treasurer, W. R. Thompson.

LAKE COUNTY MEDICAL SOCIETY.—The members of this Society met in Hammond, Ind., May 9, and elected the following officers: president, John C. Pannenborg, Hammond, vice-president, Jas. T. Clark, Hammond; secretary and treasurer, Dr. Oberlin.

ADAMS COUNTY MEDICAL SOCIETY.—This Society met in Quincy, Ill., May 13. The new officers elected were: president, Otis Johnson; first vice-president, W. W. Williams; second vice-president, D. M. Landon; secretary, C. D. Center; treasurer, L. H. A. Nickinson.

ESSEX SOUTH DISTRICT MEDICAL SOCIETY.—The election of officers for this Society, which met in Salem, Mass., May 8, resulted as follows: president, P. L. Sanborn, Marblehead; vice-president, G. A. Stickney, Beverly; secretary, B. F. Sturgis, Salem; treasurer, G. Z. Goodell, Salem.

MIDDLESEX EAST DISTRICT MEDICAL ASSOCIATION.—This Association met in Woburn, Mass., May 9. The officers elected for the ensuing year were: president, J. P. Bixby, Woburn; vice-president, C. E. Chase, Woburn; secretary, E. S. Jack, Melrose; treasurer, Chas. Dutton, Wakefield. It was decided to celebrate the fiftieth anniversary in October.

MORRIS COUNTY MEDICAL SOCIETY.—This Society met in Morristown, N. J., May 8, and elected the following officers for the ensuing year: president, H. W. Rice, Port Oram; vice-president, N. H. Adsit, Succasunna; secretary, Levi Farrar, Middle Valley; treasurer, J. Douglas, Morristown.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.—At the annual meeting of this Society, held recently in Lawrence, Mass., the following officers were elected: president, F. B. Flanders, Lawrence; vice-president, J. F. Croston, Haverhill; secretary and treasurer, M. D. Clark, Haverhill; corresponding secretary, J. A. Fitzhugh, Amesbury.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—This Association met in Richmond, Va., May 22-25. The annual address was delivered by Dr. J. Allison Hodges, and the following officers were elected for the ensuing year: president, P. M. Wise, New York City; vice-president, R. J. Preston, Marion, Va.; secretary and treasurer, C. B. Burr, Flint, Mich.

ARKANSAS STATE MEDICAL SOCIETY.—This Society closed a three days' session in Fayetteville, Ark., May 17. The following officers were elected: president, W. B. Lawrence, Batesville; first vice-president, L. Kirby, Harrison; second vice-president, M. L. Norwood, Sevier; secretary Frank Vinsonhaler, Little Rock; treasurer, R. C. Thompson, Pine Bluff. Hot Springs was selected as the next place of meeting.

WASHINGTON STATE MEDICAL SOCIETY.—The eleventh annual meeting of this Society was held in Spokane, Wash., May 8 and 9. The election of officers resulted as follows: president, P. W. Willis, Seattle; first vice-president, A. E. Burns, Republic; second vice-president A. E. Stuht, Colfax; secretary, A. H. Coe, Spokane; treasurer, J. W. Bean, Ellenburg. Eight new members were added and Seattle was chosen as the next place of meeting.

KENTUCKY STATE MEDICAL SOCIETY.—The forty-fifth annual meeting of this Society was held in Georgetown, Ky., May 8-11. The following officers were elected for the ensuing year: president, Jas H. Letcher, Henderson; first vice-president, Geo. E. Davis, Lawrenceburg; second vice-president, Geo. M. Reddish, Somerset; secretary, Steele Bailey, Stanford; treasurer, C. W. Aiken, Flemingsburg; librarian, Frank Lopsley, Paris. The Society voted to meet next year in Louisville, and chose Louis Frank, of that city, chairman of the committee on arrangements.

IOWA STATE MEDICAL SOCIETY.—The forty-ninth annual meeting of this Society closed a three days' session in Des Moines, May 18. There were 112 new members added, making the entire membership 800, about 450 of whom were in attendance. Davenport was selected as the next meeting-place, and the following officers were elected for the ensuing year: president, R. E. Cundiff, Sioux City; first vice-president, J. M. Ristine, Cedar Rapids; second vice-president, Frank Porterfield, Atlantic; secretary, J. W. Cokenower, Des Moines; assistant secretary, Geo. E. Decker, Davenport; treasurer, Geo. Skinner, Cedar Rapids. In connection with this meeting occurred the second annual meeting of the Social Society of Iowa Medical Women. Papers were read by Nancy M. Hill, M. A. Coveny, Margaret Colby, A. D. King, Jennie McCowen and others. The following officers were elected: president, A. D. King, Dese Moines; vice-president, Mary A. Breen, Lemars; secretary, N. M. Hill, Dubuque; treasurer, Jennie McCowen, Davenport.

AMERICAN MEDICAL TEMPERANCE ASSOCIATION.—The tenth annual meeting of this Association will be held at Atlantic City, June 6, at the Hotel Dennis. This is the fourth largest association of medical men in the world the object of which is to study the alcoholic problem exclusively from the scientific side. The English association, called the British Medical Temperance Association, has a membership of over 600, exclusively medical men. Its president is Prof. Sims Woodhead, of Cambridge. The French society for the same purpose has a membership of 400. Its president is Dr. Motet, of Paris. The German society has for its president Dr. Mendell, of Berlin. It has a membership of over 300. The American society comes next with a membership of 150. Dr. N. S. Davis, Chicago, is its president and has been so from the first meeting held in Washington in 1891. The Swiss society is the last one formed,

with a membership of nearly a hundred. All these societies are composed of medical men who realize the magnitude of the subject and who address themselves without sentiment or theory to the study and discussion of the use of alcohol as a medicine and beverage. The French and English societies publish their transactions and papers in special journals. The American society issues the same in the form of a "Bulletin" published quarterly. The yearly meetings are held at the same time and place as the AMERICAN MEDICAL ASSOCIATION, for the reason that its members are almost exclusively also members of this ASSOCIATION. The annual meeting is for the election of officers, the presentation of reports, with president's address, some papers and discussions. The most of the papers bearing on this subject are presented in the different Sections of the AMERICAN MEDICAL ASSOCIATION. This is considered the most practicable, for the reason that a larger audience can be obtained and the papers will have more influence. The English society adopts this course with the addition of a medical breakfast at the British Medical Association meetings. This latter gives occasion for a free expression of opinion by all the leaders who are in sympathy with the movement. The necessity for the recognition and medical study of this subject becomes more imperative every year, particularly for authoritative studies by men of reputation. This Association should be a very great power in this country in directing public sentiment along these lines. A number of papers are promised at this meeting, and an invitation is extended to every one interested to be present. The session will be at 9 o'clock. Dr. T. D. Crothers, of Hartford, Conn., is secretary.

AMERICAN MEDICAL EDITORS' ASSOCIATION.—The annual meeting of this national association of American medical editors will be held at the Hotel Dennis, Atlantic City, N. J., Monday, June 4, under the presidency of Dr. I. N. Love, St. Louis, Mo. Dr. Dillon Brown, editor of *Pediatrics*, New York City, is secretary, and together with Dr. Philip Marvel, Atlantic City, chairman of the committee of arrangements, has been providing for this meeting, which will be attended by the leading medical editors of the United States, the majority of whom are members of the Association. A short business session will be held at 3 o'clock on the afternoon of June 4, and the regular meeting, for discussion of topics of interest to the members, will be co-incident with the annual banquet, which will be held at the Hotel Dennis at 7 o'clock in the evening. Topics of interest to medical journalists will be discussed by Drs. W. W. Keen, Philadelphia; J. M. Mathews, Louisville, Ky.; C. F. Taylor, Philadelphia; John V. Shoemaker, Philadelphia; Leartus Connor, Detroit, Mich.; Surgeon-General Walter Wyman, Washington, D. C.; Philip Marvel, Atlantic City, N. J.; Chas. Hamilton Hughes, St. Louis, Mo.; Dillon Brown, New York City; W. C. Wile, Danbury, Conn.; L. S. McMurtry, Louisville, Ky.; Kenneth Millican, New York City; Thos. Hawkins, Denver, Colo.; Geo. F. Butler, Alma, Mich.; Wm. Osler, Baltimore, Md.; C. A. L. Reed, Cincinnati, Ohio; Windslow Anderson, San Francisco, Cal.; W. W. Potter, Buffalo, N. Y.; Chas. Wheaton, St. Paul, Minn.; Hobart A. Hare, Philadelphia; A. M. Phelps, New York City, and Nicholas Senn, Chicago. Five-minute addresses will be given by each of these gentlemen, who have been specially invited, and these will be followed by impromptu remarks from others present. The medical journalists of the United States are uniformly loyal to the AMERICAN MEDICAL ASSOCIATION, and a few years ago formed their organization under the name of the American Medical Editors' Association, which from the beginning has held its annual meetings the day before the regular convening of the AMERICAN MEDICAL ASSOCIATION. A symposium of rare interest is expected and every medical editor and all who are interested in the literature of the medical profession are cordially invited to be present.

INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.—The medical press of France has organized a congress as already announced, summoning the representatives of the medical press at home and abroad to a general reunion immediately before the opening of the International Medical Congress. Baudouin of Paris, and Posner of Berlin, have been working since 1894 to organize an international association, and it was proposed at the Rome congress to have a section for the medical press in future international congresses. A provisory international committee was appointed to report at the Moscow congress, but nothing substantial has been accomplished. "The example of the international reunions of the lay press has demonstrated the great benefits to be derived by our profession from a general agreement on a certain number of points in which all are interested. An international association would promote the legitimate influence of medical journalism on the medical public, enhance the value of scientific literature, assist in the organization of periodical congresses and be found useful in many other ways." The chief questions to be discussed at the sessions are the foundation of an international association and the application of the principles of the protection of literary property to the protection of medical literature. Addresses on these subjects by Laborde (*Trib. Méd*, Paris), Posner (*Berliner Klin. Woch.*), Rubino, De Maurans (*Semaine Méd.*, Paris), and Rochet (lawyer of the French Ass. de la Presse Méd), are to be distributed to the members before the congress opens. Other questions to be discussed are: "Unification of Technical Terminology for Bibliographic Privileges Allowed the Lay Press;" "Regulation of the Right of Reproduction;" "General Conditions of the Service of Exchanges Between Journals;" "Representation of Medical Journals in Foreign Lands;" "Rôle of the Medical Press in the Organization and Promotion of Congresses, etc." The dates of the congress are July 26 to 29, the membership fee $5 for titular and $2 for adherent members. Secretary, Dr. Blondel, rue de Castellane 8, Paris.

Illinois State Medical Society.

Fiftieth Annual Meeting, Springfield, May 15-17, 1900.

(Continued from p. 1335.)

COMPLICATIONS AND SEQUELAE OF SCARLET FEVER.

DR. M. S. MARCY, Peoria, read a paper on this subject, in which he said that the complications of this disease are to be dreaded, owing to a lack of a positive antagonist to the streptococcus. He pointed out the necessity of carefully watching the patient after the acute symptoms have subsided, for fear that complications may set in, and some of them were discussed. He gave the history of a very severe case with all the complications, following a mild attack. According to his observations, they are apt to be worse in children, who inherit weak constitutions from parents who have suffered from syphilis and tuberculosis; and especially those of old fathers.

TENDENCIES OF MODERN MEDICINE.

DR. H. N. MOYER, Chicago, considered this subject in his annual address. In speaking of the medical practice act, he said that physicians are not benefited by it, but the public is, while it is for the protection of the public health that laws are passed; and that the interest physicians feel in legislation is no more and no less than that any class of citizens ought to feel in having good laws passed and in seeing them properly enforced. It is sometimes questioned whether or not physicians should descend into the arena of practical politics in order to secure such legislation as is necessary. If not done in a sense of pique, because their advice is not sought, but simply in an advisory capacity, their influence is great. This kind of legislation is increasing, developing from natural causes, because medicine is rapidly becoming an exact science. One of the tendencies of the near past, in the development of modern medicine, is an increasing confidence in and a reliance on scientific medicine on the part of the public.

Referring to "Christian Science," he said that it does perform cures, but by suggestion, a well-recognized method of treating diseased states, and one employed by physicians in suitable cases. In so far as the method happens to be applicable to a particular case, the results are brilliant, but when "Christian Science" deals with an infectious case, or organic disease, then the consequences may be deplorable. He thinks that the physician need do nothing legally, with the "Christian Scientists." Education is the remedy for "Christian Science,' and medicine has nothing to fear from such fads as faith healing, magnetic physicians or miracle mongers.

He further said that the increasing exactness in medical science is exerting a powerful influence on medical education, but by some it is believed that the effect is reversed, and by the influence of medical education the science is being created. The use of methods and instruments of precision, whenever they become at all general, must find their reflex in the medical curriculum. He contrasted the medical college of his student days with that of to-day. Progress has been rapid, and the laity is rapidly recognizing the importance of scientific precision, while the physician who does not use the numerous aids at his command to-day soon finds himself out-classed. The material rewards for special skill in the medical profession have increased, as is witnessed by the salaries paid eminent surgeons in the South African War, and this reflects the judgment of the public as to the value of such medical services. The outlook of the immediate future for the beginner in medicine is not bright. There are too many medical men, but this is true of all lucrative occupations. There is a constant adjustment, and the law of supply and demand must ultimately govern; as the standard of medical attainment is raised, and the cost of getting a medical education is increased, the supply will diminish. The real problem before us is the exclusion of those who are not properly equipped mentally for mastering the deeply intellectual problems of medicine.

The crowning glory of the present century is the control of epidemic disease. The problem of infection in typhoid, tuberculosis and malaria has been mastered. If scientific medicine had nothing but this to its credit, it would take first rank among the beneficent sciences. The next great assault will be against consumption. The value of special climate in the treatment of this is doubtful, but in most cases a cold, dry air is best, and freedom from dust the most important consideration; these conditions can not be found in large towns or cities, and only a small proportion of consumptives can go any considerable distance, but they must be in the country, and we must have the aid of the country practitioner. For years the country doctor has seen many of his patients going to the cities for operations and treatments, content with the thought that perhaps they received better service than he could give them, but if tuberculosis is to be overcome, it must be with his aid.

He referred to medical organization, legislation, education, and the expansion of the public health service, and said that the medical profession is not doing its fair share of government in this country. In Europe medical thought has been of preponderating importance; in France the Chamber of Deputies has more physicians than lawyers; the same is true of the Reichstag of Germany, and the only antagonist whom Bismarck feared and respected was Virchow, who for twenty-five years was one of the leading legislators of Germany; this is true also of Italy, where Baccelli was for years the leader of a great political party, and at the same time a great teacher and master of clinical medicine. The legal profession has too *long* dominated the scene, and if to attainments in this line is added the glint of soldier straps, the result seems quite irresistible. The combination of soldier-judge, or lawyer-colonel, seems to be as inherently entitled to rule this country as are the dukes and princes in the Old World. Medical men know how poor legal and military training is for the comprehension of sociologic problems, and that no class or profession is so competent to deal with these topics as is their own. In the main, the world is indebted to the medical profession for all of its scientific knowledge in regard to criminals and the defective and dependent classes; yet government, 80 per cent. of whose operations are concerned with these classes, is controlled by lawyers, who have a sprinkling of military experience. Another age will look back on this, and, with the perspective of years, wonder why the intellectual advancement of our times was not represented in government.

ADDRESS IN STATE MEDICINE.

DR. ARTHUR C. COTTON, Chicago, delivered the address of this section, using for his subject, Jeremiah, xxxi, 15: "Thus saith the Lord: A voice was heard in Ramah, lamentation and bitter weeping; Rachel weeping for her children, refused to be comforted for her children, because they were not." The historic aspects of pediatrics were considered and reference made to a book devoted to children, which was written by a lay woman in 1790, and called "The Maternal Physician."

All recognize that the mortality of infancy and childhood is enormous. More than two-fifths of the whole number of deaths in England and Wales during the decade of 1881-1891 occurred in children under 10 years of age. The greater number of these were under 5, and still more under 1 year. Recent studies—by Eross—of sixteen large European cities, including a review of a million and a half of children, have shown that 10 per cent. of infants born alive die during the first four weeks of life. Independent work in New York along the same lines brought very similar results, namely, a proportion of 1 death to every 10.8 births. The lowest average infantile death-rate to any European country is found in Norway, where we may expect to find, of 1000 births, 900 infants still alive at the end of one year. Only in the most favorable portions of other countries—the rural districts—are nine infants out of ten born able to keep up the struggle for life. In the larger cities the mortality during the first year is found to range from 120 to more than 700 in 1000 births.

The relation of the physician to over 90 per cent. of the disorders of infancy and childhood, may be summed up in the one term, "hygiene," and the conscientious practitioner will agree that the measure of his success bears a direct ratio to his application of the principles of this all-important subject. Among the obstacles to be overcome in this, two things particularly stand in the way: 1, there is either a want of information on the part of the physician, or a disinclination to apply his knowledge; 2, there is unwillingness of the mother to be guided in this respect.

The convention of child study, which was recently held in Chicago, revealed that systematic experimental observations on a large number of children of different ages have been instituted in some of the public schools, with the result that exceedingly interesting and valuable data have been obtained by Gilbert of New Haven, Porter of St. Louis, and W. S. Christopher of Chicago. In the latter city, as in some others, a more or less systematic, though limited, medical supervision of the pupils has been inaugurated, which during the past winter has shown positive results in checking the spread of acute contagious diseases, and also benefited in many other ways the pupils thus inspected. As a partial result of these investigations, the conclusion has been reached that our boasted school system may prove a great evil, if not properly guarded. The public school is recognized as a great juvenile board of trade, where exchange of infection and their products may be affected, and contagion disseminated. The question of hygiene and the individual pupil should find a response in every intelligent parental mind. Aside from dangers of contact infection, the question of injury to the individual pupil by the ordinary schoolroom régimen is a subject worthy of careful study; and the wrecks, physical and mental, that strew the pathway of life but emphasize the need of more definite knowledge. It is now accepted that many children, generally recognized as able-bodied, can not be subjected to the routine of school life without positive injury to themselves, if not to their associates, and that defective hearing, vision, tactile sense, as well as hemic, secretory and excretory faults unfit many children for the modern schoolroom. He believes that no child should be admitted to any grade in school without a medical certificate from a competent examiner, and he discussed the propriety of state legislation looking toward such medical supervision of pupils in our public schools.

PATHOLOGY OF DELIVERY.

DR. J. CLARENCE WEBSTER, Chicago, made the address of the section on surgery, with this as his subject. He first considered anomalies of the hard passage, and under this head included all variations from the normal type of bony pelvis, naming as the most frequent contractions met with in practice: the justo-minor or universally contracted pelvis, the flat non-rickety and rickety, the funnel-shaped, and the pelvis altered by various spinal deformities. Of the latter, perhaps the most common are the universally contracted and the flat. Reference was made to the use of forceps, the axis-traction instrument

and not the ordinary long forceps, and to the value of the Walcher posture. The indications for the use of axis-traction forceps were discussed and, in a general way, the conditions in which the instrument should be employed: 1. In delayed labors due to *a*, faults in the powers—1, essential—the uterus; 2, accessory muscles; *b*, faults in the passenger—1, slight enlargement or marked ossification of the fetal head; 2, certain malpositions and malpresentations; *c*, faults in the passages—1, soft parts; 2, hard canal. 2, In dangerous labors due to *a*, maternal complications, viz., heart disease, pneumonia, etc.; *b*, fetal complications, viz., some cases of prolapsus funis, dry labors, etc.

The chief indications for performing version were given as follows: 1. Maternal: *a*. Accidental hemorrhage and placenta previa. *b*. Eclampsia and other conditions where a hurried delivery is considered necessary. *c*. Flat pelves. 2. Fetal: *a*. Transverse presentations when the conditions are favorable. *b*. Prolapse of the cord in the first stage. *c*. Brow and face cases when the head has not engaged, if it is impossible to change them into vertex cases.

Symphysiotomy is best regarded as an adjuvant to delivery by the axis-traction forceps. It may, therefore, be employed, speaking generally, where forceps delivery in the Walcher position is impossible, and where there is no doubt that the increased pelvic measurements resulting from the operation will allow the head to be extracted. It may be tried: 1. In cases of pelvic contraction. Most authorities mention a limit of 2.6 to 3.2 inches in flat pelves, and 3.2 to 3.9 inches in justo-minor ones. It is evident that the employment of the axis-traction forceps in the Walcher position must make unnecessary, in a considerable proportion of cases, the cutting operation. 2. Symphysiotomy also has a place in impacted brow and face cases, where delivery can not be safely carried out with axis-traction forceps in the Walcher position. 3. In cases where the head is abnormally ossified or a little enlarged, and delivery can not be effected by the axis-traction forceps and the Walcher position, symphysiotomy is indicated.

The indications for Cesarean section, and also for the Porro-Cesarean section were mentioned. The latter should be employed: 1. Where the patient is particularly anxious not to run the risk of a second pregnancy, owing to the impossibility of delivery through the vagina. 2. Where the uterus or appendages are so diseased as to render probable the necessity for a subsequent operation. 3. Where owing to a prolonged labor, in which other manipulations have been tried, infection of the uterus has occurred.

In speaking of the indications for embryotomy, he said that in view of the modern improvement in the technique of abdominal surgery, whereby the mortality of Cesarean section has been greatly reduced, a physician takes upon himself a grave responsibility where he recommends the destruction of the living child.

APPLICATION OF FORCEPS.

DR. J. E. ALLABEN, Rockford, considered this subject. He said that the forces which are responsible for the origin and evolution of the obstetric forceps may be designated under two general heads: the evolution of the human family to its present stage in civilization; and the individual deviation in structure or function, either in parent or fetus, from a certain type which is designated as normal. The obstetric forceps in the hands of the skilful is a device capable of saving life and curtailing pain; in the hands of the unskilful, it has done great harm. The essential features in a forceps are that they should be aseptible; should have the proper cephalic and pelvic curve; should be rigid enough to prevent slipping, and should be so constructed that traction can be applied as near as possible in the direction of the axes of the pelvic planes. He recognizes three varieties, the long, short and axis-traction, and spoke of two things that should be remembered in inserting the blades—the curve of the child's head, and the curve of the mother's pelvis.

He divides the operations of forceps applications into low, medium, and high. Under low, he recognizes the following divisions with reference to position and presentations: 1, occipito-anterior; 2, occipito-posterior with partial rotation; 3, occipito-posterior; 4, face presentation; 5, breech presentation. These positions and presentations were taken up and discussed in consecutive order.

TECHNIQUE OF VERSION.

DR. J. F. PERCY, Galesburg, read a paper on this subject. He said that an important preliminary aid to the final success of version is an exact diagnosis of the relation of the fetus in *utero* to the maternal parts. This will require either abdominal palpation, a vaginal examination, or both combined. Version should never be attempted in a pelvis where the conjugate vera is less than 9 c.c. Another very practical aid is examination of the prospective mother by abdominal palpation every two weeks after she has advanced beyond the seventh month of pregnancy. Since version belongs to the domain of surgery, the physician should prepare for it as for a capital operation.

MANAGEMENT OF IMPACTED CASES.

DR. HENRY F. LEWIS, Chicago, discussed this subject. He defined impaction as that condition in which the presenting part is stuck fast in the maternal passages, neither advancing with the pains nor receding in the intervals. The presenting part of the fetus wedged in the pelvic canal renders the soft parts anemic by pressure, which, if continued long enough, causes necrosis. At the same time, the pressure interferes with the circulation of the parts in the canal below so that they become swollen and edematous. The worst feature of the case is that the labor becomes indefinitely prolonged and can not be terminated unless the pains greatly increase in their intensity, or assistance is furnished. He considers impaction as limited in causation to a disproportion between the bony canal and the presenting part; and does not think that dystocia is due to tumors, cicatrices, etc. Of all parts of the fetus the head is most prone to impaction. With a normal position of the vertex, impaction may occur in any portion of the pelvic canal on account of smallness or deformity of that canal, or on account of largeness of the head. Careful examination and mensuration before labor will often reveal the disproportion between head and canal and enable the obstetrician to take measures which will forestall trouble. In impaction of the presenting part of the fetus within the pelvic canal, traction with forceps or otherwise should first be tried, except in cases of monstrosity or in transverse shoulder presentations, in which cases embryulcia is the proper resource. If justifiable force with traction fails to move the fetus, symphysiotomy remains, if the child is living, and a mutilating operation if the child is dead.

MUTILATING OPERATION IN OBSTETRICS.

DR. CHARLES S. BACON, Chicago, discussed this subject. He said that these are generally indicated in cases of obstructed labor in contracted pelves where the child is dead. Obstruction in the soft parts, for example, incomplete dilatation of the cervix, or stenosis of the vagina or vulva, due perhaps to scar formation, may sometimes furnish the indication. The perforation or decapitation of the living child is becoming less frequent as the result of high forceps operations; Cesarean section and symphysiotomy are improved, yet it is not possible to make a rule condemning the operation in every case. Among the most urgent conditions which call for interference and determination or decision for perforation or decapitation, as the case may be, is the distension of the lower uterine segment. He is confident that this condition is often overlooked by many physicians, and emphasizes its importance. The recognized indications for decapitation are impaction, in a case of neglected cross-presentation, or a dangerous distension of the lower uterine segment. To these indications he added one that, so far as he knows, has not been acknowledged, namely, a serious contamination of the presenting arm.

SYMPHYSIOTOMY.

DR. GEORGE N. KREIDER, Springfield, read a paper on this subject, in which he quoted the indications for this operation as mentioned by Dr. Webster. He also quoted from the paper of Dr. E. A. Ayers, of New York, regarding the subcutaneous operation, as follows: 1. Secure full dilatation of the cervix before beginning the operation, if possible, without risk to the child. 2. Have the urethra and bladder held to the left with a sound. 3. Make the initial incision with a small

scalpel, aiming to cut a path upon the face of the symphysis for a probe-pointed bistoury that is to follow, keeping the scalpel close to the bone and under the clitoris. 4. Substitute a probe-pointed bistoury for the scalpel after introducing the index finger of the left hand into the vagina against the posterior edge of the symphysis up to the top, and bring the tip of the finger and the tip of the bistoury together at the top of the joint, then work the blade downward with the left finger accompanying it, to within one-fourth inch of the subpubic arch. Then take out the bistoury, invert it, and cut from below up to the separated part, thus avoiding injury to the bulbi vestibuli just beneath the joint. 5. On removing the knife, the joint having separated, have an assistant press a pad of bichlorid gauze over the wound and face of the joint, keeping it there until the child is delivered. This will prevent hemorrhage and lessen the liability to infection. He then gave a description of the Ayers hammock bed, and a tabulated statement of seventeen cases of symphysiotomy, three of which he performed.

CESAREAN SECTION AND PORRO'S OPERATION.

DR. CHAS. B. REED, Chicago, discussed this subject. He said that the indications for Cesarean section are usually divided into absolute and relative; absolute when there is no alternative and delivery can not be effected, and relative when there is a choice between this and other procedures. The absolute indications are: 1. Contracted pelvis; flat pelvis with conjugate vera 6.5 cm. and child living; general contracted pelvis, 7 to 7.5 cm. or pelvis with 5.5 cm. conjugate vera and child dead. 2. Presence of large bony growths in pelvis. 3. Extreme atresia of lower genital tract, either congenital or acquired. 4. The occurrence of a grave accident in labor, as rupture of uterus, or sudden maternal death. 5. Carcinomatous degeneration of cervix or vagina.

The relative indications are more difficult to formulate, and usually must be determined according to the requisites of each case. As to the time of operation, it may be performed either before or during labor or after the mother's death. As an operation of election, the most desirable time under any of the absolute indications is at term, or when the labor pains begin.

For the Porro operation the indications were classified thus: 1. All cases where, owing to the general conditions, Cesarean section is indicated and the removal of the uterus is required. 2. When the child is dead, and infection of uterus has taken place. 3. Extensive atresia of vagina, preventing discharge of lochia. 4. Carcinoma of cervix. 5. Atony uteri or uncontrollable hemorrhage from placental site. 6. In cases of ruptured uterus where suture is unsafe.

The Porro operation has been expanded to include all operations which terminate in the supravaginal amputation of uterus. The advantages of this method over the conservative operation lie in the rapidity of the work, but more in the prevention of hemorrhage post-partum and the diminished chance of infection.

The Duhrssen vaginal Cesarean section presents a new phase of the question, and he advocates this operation in: 1. All abnormalities of cervix uteri and lower uterine segment which render dilatation difficult or impossible—carcinoma, myoma, rigidity, stenosis, etc. 2. Danger to the mother, which the rapid emptying of the uterus will relieve, disease of heart, kidneys and lungs. 3. Conditions of danger to the mother which presumably will cause death. The operation has been done 11 times, with 3 deaths.

PERINEAL OPERATION IN THE MALE, AND VAGINAL INCISION IN THE FEMALE, FOR THE RESULTS OF APPENDICITIS.

DR. E. M. SUTTON, Peoria, read a paper on this subject. He does not advocate perineal or vaginal incision for all cases, but in those where the surgeon can determine that it is the shortest route into the fecal abscess, for the following reasons: 1. Abdominal pressure, so necessary to bowel action after operations within the abdomen, is not interfered with as it is when multiple incisions with the Mikulicz drain are employed. 2. Drainage is downhill, and from the most pendant fossa instead of uphill through the abdominal walls, where vomiting may dislodge the tubes or interfere with perfect drainage. 3. The danger of interfering with the more or less successful attempts of the peritoneum to combat the infection is minimized instead of increased as it is by entering from above.

ANKLE SPRAINS.

DR. EDWARD H. OCHSNER, Chicago, described and demonstrated a method which consists in careful and systematic strapping with rubber adhesive straps. These are cut from one-half to three-quarters of an inch in width, and the proper length. If a small ankle, they should be one-half inch wide; if a large one, they may be three-quarters of an inch, but no wider; on this and on the accuracy with which they are applied depends the success of the method. If the straps are too wide, or if they are applied in a haphazard manner, failure is sure to result. The foot is held at slightly less than a right angle and a trifle everted, the former element in the position is observed because it is easier to walk on a painful ankle if it is held slightly in the calcaneum than if held in the equinus position; the latter element is observed because ankle sprains are usually caused by a sudden inversion of the foot, thus injuring the external ligaments, hence slightly everting the foot relieves the tension of these ligaments and places them at rest. With the foot in this position, one end of a long strap is applied to the inner surface of the foot near its posterior end, and brought under the heel and up on the outer posterior surfaces of the leg to within a few inches of the knee. At the lower end this falls into the depression just posterior to the external malleolus. A shorter strap is now applied by placing one end to the inner surface of the heel near the sole of the foot, then bringing it around over the tendo-Achillis to the outer surface of the foot, making it cover the first strap at a right angle and passing along parallel to the under border of the sole of the foot, then over the dorsum of the little toe. Another long one is then applied, anterior to the first, overlapping it about one-third of its width; then a short one, and so on alternately until the outer anterior aspect of the ankle is reached. Over all this a hard-rolled bandage is carefully and snugly applied. The patient is directed to lie still with the foot elevated until the warmth of the body has caused the plaster to adhere firmly. In a great majority of instances the patient can walk, with reasonable comfort, after a few hours.

He reported four cases from among the number he has treated, because they illustrated four different classes. The treatment of ankle sprains by this method he has found eminently satisfactory.

CHOLELITHIASIS.

DR. J. W. HAIRGROVE, Jacksonville, read a paper on this subject. He said that the present state of pathology concerning the development of gall-stones indicates that two conditions are requisite for their formation, namely, the presence of obstruction to the free flow of bile from the gall-bladder or the biliary ducts, and the infection of these organs by a variety of attenuated micro-organisms, capable of inducing a subacute inflammation of the mucous membrane of the affected structure.

He discussed the importance of diet as an etiologic factor in the causation of this disease, and narrated three instructive cases, one of which presented the ordinary symptoms of gall-stones.

PRESENT TREATMENT OF SYPHILIS.

DR. WM. ALLEN PUSEY, Chicago, read a paper on this subject. He said that total excision of the chancre, or destruction by thorough cauterization very early, has strong theoretic grounds in its favor, and may be done in suitable cases; but that they are relatively few, for the reason that they do not come to the physician soon enough. If there is to be any hope of aborting the disease *in loco*, it must be done before the contiguous lymphatics are involved.

The treatment of the primary period should be confined to the local lesion, and such general measures as will prepare the patient to best support the onslaught of the disease. In cases of mixed infection the lesions may be treated by various vigorous antiseptic methods. Methods in point were described. The constitutional treatment of syphilis involves the management of the patient's general condition and the effective use of mercury, and to a less important degree the use of the iodids. In regard to how long the constitutional treatment of syphilis shall continue, he said that the tendency among syphilog-

raphers is constantly to increase the period; and bearing in mind that the duration of active secondary syphilis is at least from six months to a year, active specific treatment should continue at least this long. The weight of opinion is for at least two years' thorough treatment. Clinical experience leaves no doubt of the efficacy of inunctions in the treatment of this disease. The organism can be promptly and surely brought under the influence of mercury by inunctions, and as an ally to the administration of mercury by the mouth it is a method of the utmost value. Injections of mercurial salts are preferably made over the gluteal region, and should be made up, the needle being driven in at right angles to the surface up to the base.

HEMORRHAGE OF THE BRAIN.

DR. C. DEWEY CENTER, Quincy, reported a case of multiple, terminal twig hemorrhage of the cortical system of the right side of the brain, followed by transient left hemiplegia, petit mal, and later by generalized convulsions. Operation was resorted to and recovery of the patient followed.

INTESTINAL OBSTRUCTION.

DR. A. GOLDSPOHN, Chicago, reported two cases of intestinal obstruction following vaginal hysterectomy, and one after pelvic abscess, with a secondary operation in each case, and concluded with the following observations:

1. According to Lenclos, ileus is more frequent after vaginal hysterectomy than after other abdominal sections. This is chiefly in all cases in which the abdominal or pelvic cavity is not closed; for in these two or three of the chief causes of peritoneal adhesions are quite generally present, i. e., a raw surface, infection, and a foreign body—the drain.

2. Inasmuch as it is known that the physiologic economy of the abdomen demands that the different portions of the small intestines shall be free to migrate from place to place, any opening of the abdominal or pelvic peritoneal cavity is deplorable if it engages any portion of the small intestine to assist in closing the opening or wound. This is regularly the case in vaginal hysterectomy, as ordinarily performed, and as is necessarily done in all cases of this operation where there are extensive abraded surfaces, or where septic features are present. But in all other cases of this operation where no intraperitoneal cavity is needed, it is a just requirement that the peritoneal cavity be closed by a closure of the wound in the peritoneum by coaptation of its edges; and that the use of hemostatic forceps or clamps, as far as it interferes with such closing of the peritoneum, should be avoided as far as possible.

3. Secondary operation for the relief of post-operative ileus, to be successful, must be performed before the mechanical obstruction has caused infection and paralysis of the bowel—peritonitis.

4. When this difficulty arises early—within three to four days after an abdominal or pelvic operation, i. e., the time in which post-operative peritonitis can also be expected, it is often difficult to exclude the latter, which also causes similar symptoms.

5. Symptoms and signs which speak mostly for ileus are: Abdominal distension without marked tenderness to touch or gentle pressure; the presence of rhythmical colicky pains; a slow pulse that is not wiry; fecal vomiting; vermicular motion of small intestines, seen or felt through the abdominal wall; increased proportion of indican in the urine.

SENILE ENLARGEMENT OF PROSTATE.

DR. F. KREISSL, Chicago, discussed "The Treatment of Senile Enlargement of the Prostate, with Especial Reference to the Galvano-Caustic Radical Treatment." He divided the surgical procedures into three groups: 1. Methods of cysto-drainage—suprapubic, perineal, or rectal. 2. Methods of indirectly aiming to reduce the size of the prostate, the so-called sexual operations, like vasectomy, angioneurectomy, and castration. 3. Methods directly striking the obstruction at the vesical neck, like prostatotomy, prostatectomy, electro-cauterization, and the galvanocaustic incision, or, as it is better known, Bottini's galvanocaustic radical treatment of senile enlargement of the prostate.

He reported several instructive and interesting cases, and concluded with the following statement: "From what we know to-day we can safely say that the galvanocaustic radical treatment of senile hypertrophy of the prostate is a well-established fact, and is supported by a great many promising and reliable reports of eminent investigators. It is reserved for the near future to collect and conscientiously scrutinize the results of practical experience, from which a permanent edifice will be constructed."

(To be continued.)

Denver and Arapahoe Medical Society.

May 8, 1900.

DISEASES OF THE BLADDER AND THEIR DIAGNOSIS.

DR. W. P. MUNN classified diseases of the bladder from the standpoint of anatomy, physiology, urinology and bacteriology. He said that for convenience in clinical study, it is well to investigate every case of disease of the urinary organ systematically and seriatim from each of these standpoints, finally basing diagnosis on the composite picture that results therefrom. He said, also, that it is well to determine first whether the act of urination is unduly frequent, by having the patient state definitely the number of times and the hours at which he urinated during the day and night preceding the inquiry, as well as the quantity voided each time. Frequency may be due to diabetes, diuretics, drinking large quantities of fluid, or use of some special article of food. It may also be associated with diminished total excretion of water and increase of soluble solids.

Urine that is normal in specific gravity and abnormal in anatomic elements demands careful study to determine the source of the trouble. Pus when present in the first part of the urine passed, presenting the well-known *tripperfaden*, owes its origin to the urethra; when present in the last portion, it is evidence that it comes from the bladder; when mixed with the whole urinary excretion, it may come from either bladder, urethra or kidney. "Urgency" often exists without disease of the bladder. In young men it is often due to gonorrheal, deep urethritis, septic, typhoid, tubercular or diet infection. In the female, often frequent urination of urethral origin has been attributed to the bladder. This is especially the case in unmarried women. A patient who has been under the care of one of the most eminent surgeons in New York and irrigated almost continuously for about a year without benefit, on examination was found to have a dense cicatrix about one inch in length, that obstructed the passage. Four long, deep incisions were made and dilators introduced daily, and improvement was rapid. The stricture was the result of a contracting tubercular ulcer, as the patient had previously suffered from pulmonary tuberculosis.

There may be utter absence of clinical symptoms pointing to the kidney, yet, as a matter of routine, every difficult case should be subjected to examination by either the urine segregator, the cystoscope or the urethral catheters. As examples of the necessity for such examinations, he cited cases.

Following the consideration of frequency, there should be an inquiry as to the presence or absence of pain, its location, character, frequency and severity, the time of its occurrence and its coincidence with other signs and symptoms. Reflected pain in other parts of the tract often occurs. One of his patients suffers from persistent pain at the fundus of the bladder, which is evidently due to an old deep urethritis, since it disappears as if by magic when a solution of eucain or cocain is instilled into the prostatic urethra.

Every case of hematuria demands early and thorough examination, and physical inspection of the external organs must be a part of the examination.

EVASION OF THE COLORADO MEDICAL STATUTE.

DR. L. D. VAN METER called attention to a few salient points relative to the open evasion of the medical statutes by the very class that such statutes were enacted to prohibit. The interpretation of the statute by Judge J. Ebert, in his decision from the Supreme Court of Colorado in the case of Harding vs. The People, is as follows: "The provisions of the act show beyond any question that the clear intention of the legislature was to require all persons desiring to practice medicine or surgery within this state to apply for and receive a certificate of qualification from the State Board of Medical Examiners."

The following questions naturally arise: How do they es-

cape persecution? How do they evade the law? They do so by putting forth the silly, threadbare plea that they are not practicing medicine or surgery, and use or prescribe no drugs. The statute reads: "Any person shall be regarded as practicing medicine within the meaning of this act who shall profess publicly to be a physician and prescribe for the sick, or shall attach to his name the title of 'M.D.' or 'surgeon' or 'doctor' in a medical sense." Take for example an osteopath, who has the presumption to follow his name with "D.O." and who claims he is not practicing as an "M.D.," "surgeon" or "doctor" in a medical sense, as he is not prescribing drugs; when he openly professes to cure disease by manipulation, and goes into our courts and testifies that osteopaths are graduated doctors of a new school of medicine, how can it be possible that any court would rule they are not "to be regarded as practicing within the meaning of this act?" Is not their use of the word "doctor," using it in a medical sense? Are they not prescribing for the sick when they direct that an inflamed joint be rubbed or manipulated? Or when they, as one of them recently testified under oath, treat a case of disordered stomach after a debauch by locating the pneumogastric nerve in the neck," desensitizing" this by rubbing and manipulation, setting free the pent-up nerve-force in "nature's drugstore—the brain—and thereby curing the malady which he considered so dangerous to life that he deemed it advisable to call in a licentiate of the state board as a consultant. What is the remedy? Dr. Van Meter suggested the starting of criminal proceedings against the osteopaths in order to test the law. For if any one file information, sufficient in the judgment of the district attorney, that any one is violating a state statute, he is bound to enter indictment against such violator without cost or trouble to the informer.

Kings County Medical Association.

May 8, 1900.

H. Arrowsmith, M.D., President.

MERGES INTO THE STATE ASSOCIATION.

Before taking up the scientific program, the president announced that there was very important business before the Association for its consideration, i. e., the question of its union with the New York State Medical Association as a subordinate county association.

DR. J. C. BIERWIRTH, a member of the council of the state association, then described the obstacles that had been surmounted in securing the new charter for the state association. A great effort, he said, had been made toward unification and peace. The proposed coalition would give a state association of about 1200 members. In addition to the many adantages that must accrue from greater unity and strength, it was hoped that in time the members would also receive a mortuary benefit. Dr. Bierwirth then moved the adoption of the following resolution:

RESOLVED, That the Kings County Medical Association affiliate with the New York Medical Association in accordance with the dictum of the new charter.

DR. J. D. RUSHMORE at first objected on the ground that this proposed action seemed to him like an abrogation of local rights and government, but after some further explanations by Dr. Bierwith and by Dr. Squibb, the resolution was unanimously adopted.

ENTEROPTOSIS.

DR. JOSEPH F. O'CONNELL read a paper on this subject. He said that Glenard, of Lyons, France, had written extensively on this and recognized it clinically as accompanied almost invariably by a specific form of dyspepsia. Anatomically the ptosis generally occurs in the following order—first the stomach, then the intestine, the right kidney, the left kidney, and lastly, though rarely, the liver and spleen. Its etiology embraces a number of factors. The normal curves and pouches of the gut are predisposing factors, as is likewise an abnormal mobility of the tenth rib. Other factors are abnormal attachments, in fact, anything causing diminution of abdominal tension. First among the exciting causes is trauma, and next come oft-repeated pregnancies. The speaker said that Stiller would discount these factors, and place far ahead of them in importance the so-called "costal stigma." This is the mobility of the tenth rib already alluded to. Meinert, of Vienna, on the contrary, after an exhaustive study of several hundred bodies, makes the statement that this sign is of little or no value. Among the more important objective symptoms are: a flat stomach, sensitiveness to pressure near the tenth rib, a cord-like transverse colon, which crepitates under pressure, and through which the pulsations of the aorta can be distinctly felt, a displacement of sigmoid and cecum, a prolapse of because these hours correspond in general to periods of duodenal digestion. The treatment comprises bandaging, the use of laxatives, alkalies, hydrotherapy, exercise, and, in women, the correction of intrapelvic displacements.

DR. JACOB FUHS, in discussing the paper, spoke first of the etiology, with special reference to the so-called "costal stigma." In his cases of enteroptosis, he said, it is not unusual to find at least three floating ribs, and often the ninth seems very loose. Another factor considered was the lack of power of the abdominal muscles. This seems important. He does not believe corsets exert any evil influence, for he has seen many Swedish girls who have never worn them, victims of enteroptosis. More important than any or all of these are severe diseases, particularly typhoid and diphtheria, which by producing long-standing malnutrition in the musculature, awake kindred changes in the ligaments, which may result in a permanent stretching. This condition might be induced artificially by a too rapid obesity cure. The speaker here related a case in point. Certain occupations, particularly those in which people occupy one position for hours at a time, predispose to enteroptosis. Last, but not least, among the etiologic factors mentioned, were oft-repeated pregnancies, and all conditions tending to lessen the firmness of the pelvic floor. As usual, prophylaxis is more important than cure. Particularly after all acute diseases, as well as after pregnancy, is it necessary to examine all the organs, and especially the abdominal muscles. There is a crying need for this care in children, for whom on the discovery of the very first suggestion of enteroptosis the recumbent position for hours during the day should be required. The diagnosis is difficult because of what might be called the normal displacement of organs. For example, the place interchange of cecum and sigmoid is frequently observed with no evil results. In like manner, the sigmoid might often be double, while the great part of the colon might sink to the brim of the pelvis. Inflation, as a diagnostic aid, is very valuable, but touch is better. Dr. Boas has followed a metallic capsule with the X-ray, but such a method is obviously not within the reach of most practitioners. Peristalsis often helps, for these patients are generally extremely emaciated. He is not in favor of catharsis, relying on enemata when necessary. He gives strychnia for the atonic form, and hydrastis for the spastic variety. Bandages, as usually applied, do more harm than good. They must not be allowed to extend above the iliac crests, or above the umbilicus. Diet is of the utmost importance. In the spastic form the food should be fine and non-irritating; in the atonic form, on the other hand, coarse granular foods are to be preferred. The position of the patient while recumbent is important. To favor emptying the stomach the left side should be elevated. In conclusion, the speaker said that too much weight could not be attached to a careful examination of the gastric contents.

New York Academy of Medicine.

May 3, 1900.

HYPERCHLORHYDRIA.

DR. MAX EINHORN read a paper on this subject. He said that, in his experience, more than one-half of the cases of gastric dyspepsia have been examples of hyperchlorhydria or excessive acidity from hydrochloric acid. This was probably owing to the fact that many of his patients were men subjected to the daily strain of active business in a large city. The disease is much less frequently met with in rural districts. A common feature of these cases is a burning or other uncom-

fortable sensation in the region of the stomach, experienced about one hour after meals, or at least after the heartiest meal of the day. The appetite is usually good, and in some instances an unnatural hunger is experienced instead of distress an hour after eating. Another characteristic feature of hyperchlorhydria is that the ingestion of food gives relief. The disease is apparently a functional disorder. Prominent in its causation are worry and mental strain, and hence women who endeavor to keep up with the whirl of society are often victims for the same reason that men at the head of large business interests fall an easy prey to this derangement. Tobacco and alcohol are also prominent etiologic factors. Gastric ulcer is a frequent accompaniment, but can hardly be considered a cause. Where the two conditions coexist, the presence of the ulcer may be suspected by the obstinacy of the case when properly treated, for, as a rule, cases of hyperchlorhydria respond promptly to treatment. He is not a believer in exclusive diets, preferring a happy medium. He usually allows the patients tender meats, not too highly flavored, plenty of milk, water and sugar, but permits them to have only a small quantity of the starchy foods, particularly potatoes. If they are given small meals at short intervals, the disagreeable sensations will quickly disappear. Sugar and fat both diminish the activity. Alkalies, such as bicarbonate of sodium or calcined magnesia, should be given about two hours after meals, and if constipation is present, rhubarb may be added with advantage. Washing out the stomach is not essential. Usually the administration of the bromids is of very great benefit, and sometimes the local internal use of faradism or of a gastric spray of nitrate of silver solution will be found useful.

Cleveland Medical Society.

Dr. O. B. Campbell, President *pro tem*, in the Chair.

SYNOVITIS OF KNEE-JOINT.

DR. WILLIAM E. WIRT presented a case due to traumatism that had lasted nearly three years. He had been applying hot air, together with rest, fixation and protection, and had also used electricity and massage, the joint improving greatly; the amount of fluid in it very promptly diminishing, so that tapping was unnecessary.

He presented another case in which there had been contracture of the tendo Achillis, following infantile paralysis. Here he secured a satisfactory result by cutting the contracted tendon, extending the joint, and putting it up in plaster-of-Paris.

He also presented a case in which there had been knock-knee on one side and bow-leg on the other. The latter was operated on by simple osteotomy with fracture, though the bone was found to be very hard, as is often the case in rickets. On the other leg, he did a supracondyloid osteotomy and put it up in plaster.

USE OF X-RAY AND ELECTROMAGNET IN LOCATING AND REMOVING FOREIGN BODIES FROM THE VITREOUS HUMOR.

DR. A. R. BAKER read a paper on this subject, and presented several specimens which had been removed from the vitreous humor with the electromagnet, after being located by radiographs. The photographs showed distinctly the presence of the foreign bodies that had been located by needles placed at right angles in front of and alongside of the eye. In one case, a very small piece of steel had penetrated the cornea, iris and lens, had been located by means of the radiograph, and successfully removed, with the preservation of good, useful vision. The author expressed the opinion that there is danger in using the strong Haab magnet in all cases of suspected foreign bodies in the vitreous for diagnostic purposes. The safer way is first to take a radiograph, then make a counter-opening through the sclerotic and remove with the magnet, and not attempt removal through the original wound.

DR. S. E. LAUDER said he had used an electromagnet that was operated by the 110-volt current and capable of lifting about twenty pounds. He had been successful in removing a piece of steel through the wound of entrance, and in one case the eye was saved because the steel, having come from the center of a large bar, was sterile. In another, although the foreign body was removed, it infected the eye, which was lost. He has not been successful in the use of the X-ray, and prefers removing the foreign body through the original opening if the case is seen early enough.

DR. S. H. LARGE said the difficulty in removal of foreign bodies arises from the facts that they tend to go into the center of the vitreous.

SUPPURATION AFTER ABDOMINAL SECTION.

DR. HUNTER ROBB read a paper based on an analysis of 114 unselected abdominal sections. His conclusion is that the chief cause of poor results or of death following an operation is infection. To avoid this he sterilizes the skin of the patient about the field of operation, the hands of the operator and of the assistants, the ligatures, etc. He uses catgut to suture the peritoneum, silver-wire mattress sutures for the fascia, and subcuticular catgut ones for the skin. He then cleanses the incision and field of operation with sterile salt solution, followed by alcohol, after which the skin is gently dried with a sterile towel. Dry sterilized iodoform is then sprinkled over the wound, after which two thicknesses of sterilized gauze are laid over it and these followed by pieces of sterile cotton large enough to cover the abdomen from flank to flank, and from umbilicus to pubes. This dressing is held in place by adhesive strips. In the 114 cases only 8—7.2 per cent.—suppurated, although 29 were pus cases, and drainage was used but once, and in these suppuration was confined to the skin and subcutaneous tissue.

DR. M. ROSENWASSER said that the essayist had not mentioned that infection of the abdominal wound may occur from the fact that in some cases the staphylococcus pyogenes albus is located beneath the epidermis, so that scrubbing and disinfection can not remove it. If a stitch has been tied a little too tightly, so as to cause compression neurosis, the presence of this organism is sufficient to cause infection, that can not rightly be attributed to any fault of the technique. As showing the difference between the epidermis, which is often inhabited by germs, and the mucous membrane, which is not usually so, he has noted that stitch abscesses are not liable to occur in operations on the pelvis by the vaginal method.

ADENOCYSTOMA OF KIDNEY.

DR. R. J. WENNER reported a case where he had removed three large uterine fibroids from a woman of 40, whose urine before operation was normal in amount and character, but on the third day after she suddenly became comatose and died. Post-mortem showed no evidence of infection or obstruction, but the kidneys were large and filled with multiple cysts, and little normal secreting tissue remained. After section, Dr. Howard pronounced the disease to be adenocystoma. Parker of Bristol studied 88 cases and found this occurring more frequently in males. Less than half had albuminuria, but the urine was usually of low specific gravity, light colored and rather increased in quantity. Dr. Howard had seen four of these cases in the last two years. In Dr. Wenner's case the kidneys were enlarged, and the cysts, varying in size from a pin's head to a small walnut, were rather regularly distributed throughout the organs. The ureters were patulous and the pelves normal, the capsules non-adherent, but there were multiple cysts of the liver. He showed a cystic kidney from a case of Dr. C. F. Hoover's, that had been diagnosed antemortem by palpation. He thinks this probably the largest kidney ever observed, and in this specimen, also the ureters were patulous and the pelves enlarged—not obliterated. He showed also a very rare specimen of adeno-cysto-myxo-angio-rhabdo-myo-sarcoma, which was removed from a case operated on by Dr. G. W. Crile—one of the most extraordinary mixed tumors ever reported.

Topeka Academy of Medicine and Surgery.

Topeka, Kan., May 7, 1900.

President Dr. B. D. Eastman.

GOITER.

DR. S. A. JOHNSON read a paper on this subject. He said that a congestive swelling of the thyroid gland is seen occasionally, from irritation of the sexual organs or during menstruation. Suppurative inflammation is rare but when it occurs is usually

of tubercular origin. In tuberculosis the gland is thickened and enlarged, the overlying skin is discolored and abscesses and sinuses are formed. If the diagnosis can be made sufficiently early thorough surgical treatment may result in a cure, but the entire removal of the gland is hardly permissible.

Tumors of the thyroid are common, and are found more frequently on the right side than on the left, involving at times only a portion, and at other times the entire gland. The hereditary character of goiter is not clearly established. It occurs most frequently in women, though rarely before the tenth year, and will increase in size with each succeeding pregnancy.

The diagnosis is generally easy. The growth is usually chronic, rises and falls in the act of deglutition, is painless, not adherent to the overlying skin, and has no attachments to the inferior maxillary or clavicle. It is not adherent to any parts of the neck, with the exception of the larynx, and is usually covered with prominent veins. It is frequently an impediment to respiration and sometimes to deglutition. Occasionally it grows inward and presses on the trachea, causing absorption of its cartilages.

The cause of goiter has not been discovered, but the disease is peculiar to certain people in certain localities. As a treatment, iodin sems to do the most good, and may be given internally, locally externally, or hypodermically. He reported two very interesting cases, in both of which iodin was used with recovery as the result.

DR. R. E. MCVEY said that he had seen three or four malignant cases which resulted fatally, one death being from pressure; the patient having refused to have an operation.

DR. O. A. TAYLOR spoke of a mining camp in Missouri, where three-quarters of the cases were in negroees. The tumors were vascular and the pressure on the blood-vessels affected the heart considerably. He said that some authorities claim this is more prevalent in those who carry heavy burdens on the head, and that the negroes from the mining camp were from the South, where they were accustomed to doing this.

DR. W. H. HALL said that the iodin treatment externally is more successful if an antiseptic is combined with it.

German Congress of Surgery.

Berlin, April 18-21, 1900.

INOPERABLE CARCINOMA.

The proceedings were opened with an urgent appeal by Czerny for the more thorough treatment of inoperable carcinomata, stating that 75 per cent. of all cases that come to the surgeon are inoperable, and according to Duhrssen only 10 per cent. of the women with carcinoma of the uterus are cured. He would operate to the farthest possible limit, far into the sound tissue, and resort to palliative measures of all kinds. Ligature of the afferent vessels may prove useful, especially with carcinoma of the tongue. Curetting and searing will surely relieve and may cure. In one observation, a carcinoma of the rectum was rendered mobile by cauterizing with a solution of zinc chlorid, permitting extirpation. He reports forty-eight cases of cancer of the uterus not affected by curetting and tamponing, but all cured by cauterizing with a 30 to 50 solution of zinc chlorid. He has found that formalin, arsenic and Fowler's solution induce pain and inflammation, and he has had no good results from the numerous general remedies proposed, but would try them as patients expressed a desire therefor.

ABDOMINAL AND RECTAL SURGERY.

The interest of the Congress centered principally in the line of preferable methods and remote results of abdominal and rectal surgery. Kroenlein has collected statistics from eleven German surgical clinics, representing a total of 881 operations for carcinoma of the rectum during the last twenty years. The mortality varied from 12.6 per cent. in one clinic to 26.7 in another; average mortality 19.4. More than 51 per cent. were due to sepsis; 18 to collapse, and over 13 per cent. to pneumonia or embolism. In 15 per cent. the deaths had no connection with the operation. Eighty of the 640 patients followed to date survived three years without recurrence. Resection of the invaded bladder and urethra has always been unsuccessful, and operation should be rejected when neighboring organs are involved. He always retains as much as possible of the anal sphincter, and has secured normal continence in 30 per cent. of his thirty-nine personal cases; relative continence in 60 per cent., and failed completely in 10 per cent. Rehn urged the necessity of extirpating the portion of the rectum involved, with the fascia, without opening the rectum. In case the rectal aponeurosis is traversed by the neoplasm the prognosis is bad. Reports on the remote results of operations on the biliary passages show that recurrence of calculi is little to be feared, but that disturbances of various kinds were noted in 15 per cent. due to stones left behind, to adhesions, threads or cholecystitis.. The indications are to extirpate the gall-bladder and drain the biliary passages but to refrain from operating except for important reasons. Israel reaffirmed the benefits of incision of the convexity in certain cases of chronic nephritis, speaking from an experience with 40 cases. He would also operate for renal and ureteral calculi in case of pyeltic infection, absolute anuria or severe hemorrhage, but would refrain from all intervention on patients who at regular intervals evacuate small round stones. They constantly form again and intervention would be useless. In opening the kidney he would carry the incision down to the pelvis.

TRANSPLANTATION OF TOE.

Successful transplantation of the second toe in place of an amputated finger was reported by Nicoladoni.

EXSTROPHY OF BLADDER.

A patient was exhibited, operated on by Mikulicz for exstrophy of the bladder. A loop of the small intestine was isolated and implanted in the bladder and abdominal wall, completing the operation as usual with two lateral flaps. The patient wears a clamp on the urethra to prevent escape of urine. Trendelenburg has treated this deformity by bringing the two ilia closer together by artificially separating the sacroiliac articulation. He has obtained excellent results by this method in a number of cases, although patients could not retain urine over two hours. He attributes this to the gradual separation of the bones, which he has tried to remedy by making an artificial fracture in the ilium itself. Payr presented a new contrivance for suture of arteries, consisting of a tube made of an absorbable metal—magnesium. The hollow cylinder is placed over one stump of the artery, and the end of the latter turned up and over on the cylinder all around; the other stump is then slipped over it, thus bringing the inner surfaces in contact, and they are held in place with a ligature. The magnesium tube is absorbed in a few days. The contrivance has also been applied to the suture of nerves, and further uses for it are being suggested.

Philadelphia Pathological Society.

Dr. F. A. Packard, President.

PATHOLOGY OF BUBONIC PLAGUE.

DR. H. F. HARRIS made some remarks on the pathologic alterations in bubonic plague, with exhibition of microscopic preparations of the diseased tissues. The specimens had been given the speaker through the kindness of Dr. W. F. Arnold, who had obtained them in Hongkong. In this condition the lymph glands affected had a greyish-red appearance which often denotes hemorrhage not infrequently occurring in bubonic plague. On section, lymph cells, red corpuscles, and enormous numbers of the plague bacilli could be seen. The mast cells did not appear to be phagocytic. A few plasma and polynuclear cells were also present. The bacilli in the tissues stained best with toluidin blue and eosin.

HYDATID CYST OF LIVER.

DR. F. P. HENRY reported the history and exhibited a specimen of this condition, from a negro, a native of Virginia. At autopsy two distinct hydatid cysts had been found in the right lobe of the liver, the capsule of which was rather hard and contained gelatinous fluid, together with the hard material which resembled putty. Hooklets of the echinococcus were found.

DR. F. A. PACKARD said he had seen four cases, two in negroes. In these cases the putty-like material had also been found.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, JUNE 2, 1900.

SECRET NOSTRUMS AND THE JOURNAL.

When some two months ago THE JOURNAL announced its intention to subject the matter of proprietary medicines to a thorough investigation, it realized that the task was a difficult one. While sporadic attempts have been made from time to time, by medical associations and by medical journals, but little progress has been made in checking the evils complained of and, in fact, but little light has so far been shed on the subject. It is believed that this has been primarily due to failure in comprehending the vast scope of such inquiry. The field is so large that nothing short of the most thorough consideration of the entire subject, in all its phases, will be adequate to furnish a basis for such conclusions as may be necessary in determining the status of the various medicinal agents and compounds which the enterprise and genius of foreign and domestic manufacturers are constantly evolving and offering to the medical profession.

The necessity for this departure needs neither explanation nor apology. The members of the medical profession have a right to demand that THE JOURNAL should at all times furnish such information as may be necessary to keep them informed on everything that is of practical value and, as far as is practicable, to expose charlatanism, deception and quackery.

In justice to the many reputable firms whose interests are so closely related to medical practitioners and their representative journals, a closer scrutiny should be made of claims for medical preference and patronage, in order to separate, as far as possible, the true from the false. The special articles devoted to this subject have aroused considerable interest, especially among those directly interested in medical manufacturers, and while most of the communications received, relating to these articles, have been rather complimentary, others have evidently emanated from persons who were not fully aware of the intent and purpose of this investigation. In the first place, let it be understood that THE JOURNAL will endeavor to be just to all. It will make haste slowly, for this matter is of too great importance to be settled in a rush or without first arriving at a fair and impartial summary of the situation. While but little has so far been done in our investigations of the subject, there are some propositions which have already been fairly settled. Among these are: 1. Medical preparations, the composition of which is kept secret, should not have medical patronage. 2. Those which are directly advertised to the laity as remedies, or cure-alls for disease, should not have medical patronage. 3. Manufacturers of preparations designed for external use need not necessarily be required to furnish the exact proportions of the ingredients except in cases in which some of these are active or toxic agents.

It may be said that the advertising pages of THE JOURNAL contain announcements that, according to the above, ought not to be there. This is true as regards some advertisements, but these will be eliminated from our pages on expiration of existing contracts unless they are made to conform to our requirements. It may be interesting to some to know that the policy of refusing to accept advertisements of secret nostrums has already resulted in an annual loss to THE JOURNAL of over $8000. While a still further financial loss must come, there need be no fear as to THE JOURNAL being able to live on. In any event it will not shrink from the task it has assumed, nor permit any withdrawal of support or patronage of its pages to cause it to swerve from its position that secret medicinal preparations are incompatible with scientific medicine and rational therapeutics.

THE DANGERS OF EXCESSIVE SPECIALIZATION.

In these days of specialization the field of the general practitioner is becoming greatly restricted. In fact, there is some danger that in many instances the so-called general practitioner ultimately may come to perform the functions of a mere business agent of the specialists, and to act as the local distributor for the patients in his community. At the same time, as the value and the need of genuine specialists in medicine are fully recognized and established, there can not be too strong a warning uttered against a tendency noticeable in some quarters to carry specialization to a degree of refinement beyond all reason. The formation by a handful of specialists of special societies and associations—too numerous to mention—may easily be carried far enough to reduce the usefulness of larger societies at the same time as the special fields become so small that the general attention the subjects discussed really merit is not fastened on them. And now, add the establishment of full professorships and special clinics and special hospitals for all the specialties and subspecialties, and we shall be able to understand that it is quite possible, by an excessive specialization, to hinder rather than favor medical progress and development. The introduction of specialties into the curriculum of many of our undergraduate medical schools has surely been an evil rather than a blessing. It is not germane at this time to discuss the various local and special conditions that have led to such a wasteful multiplication of full professorships, in many cases often against the better judgment of the governing bodies. It has been especially baneful for the just balance of the curriculum to admit the special professorships to full and equal dignity with those in medicine, surgery, anatomy, physiology and other departments recognized as of fundamental importance. In this way the time-card in many of even our better colleges, little by little has become so overcrowded with required work

that this condition alone in some cases has led to efforts at readjustment. What with lectures, recitations, dispensary and college clinics apportioned equally among new-fledged special professors, it becomes a fine art to satisfactorily provide room for all on the schedule, to say nothing of the poor students. In fact, is it not a fact that in not a few instances college positions have become the legitimate prey of self-seeking specialists who have sought for a field in which to exploit their specialty rather than a legitimate opportunity to teach medical students? Is this not one of the reasons why students on leaving the medical school are often remarkable for the superficial and smattering character of their knowledge and not at all for thorough acquaintance with the underlying principles of medicine and with the proper methods of continuing the study of medicine in a much larger and broader sense?

It is interesting to note the expensive tendency that special departments in some medical schools may acquire, presumably on account of local conditions and personal peculiarities. Thus the nasal specialist may enter on a career of conquest in a downward direction until he secures the annexation not only of the lungs and the pleura but also the mediastinum and heart; sometimes also the aorta, the barrier interposed by the diaphragm being disregarded. At other times the gynecologist becomes aggressive and stops not until, as far as his school or hospital is concerned, he is sole master of abdominal surgery. Manifestly such unnatural subdivision of medicine and surgery make it impossible to secure the best organization of the work of a medical college and the proper adjustment of the curriculum. It would serve the purpose more directly and better if much of the special instruction in our medical schools could be given under the supervision and control of the departments of medicine and surgery. Medicine and surgery should be taught from a broad standpoint, not first dismembered and parcelled out piecemeal. The large perspective of the whole should be impressed on the student at the same time as he masters the details that are essential. This subject could with advantage be pursued much further. Reprehensible specialization affects the general practitioner in various ways. It tends to diminish the confidence of the public in the "family doctor," and to engender a certain feeling of helplessnesss in the practitioner himself, when he views the increasing growth of specialties. He comes to feel that in order to hold his own "the general physician must be his own specialist" —an impossibility.

ACCIDENTAL INJURIES TO THE PROSTATE GLAND.

Although the prostate gland may become diseased in consequence of abnormal or excessive sexual indulgence, it is, by reason of its situation and its structure, little exposed to the influence of ordinary traumatism. Disease of the prostate may, however, be for a time wholly unattended with symptoms or subjective manifestations, and these may make their appearance suddenly, although the morbid process may have been present for some time. Even the normal gland varies considerably in physical characters, such as size, shape, position and consistency. Increased sensitiveness may, however, always be considered a pathologic manifestation. In illustration of the individual susceptibility of the prostate gland to morbid influences, Oberlaender[1] reports four cases in which disease of that gland was induced by falls on the buttocks without direct injury to the perineum. In one case the symptoms present included pain at the anus, a sense of weakness in the sacrum, incapacitation for work, and pain and difficulty in walking. On urethroscopic examination the prostatic urethra was found tender, bleeding readily and constricted. The lateral lobes of the prostate were equally large, irregularly nodular, tensely elastic and painful. Under treatment most of these symptoms disappeared, but the prostate remained enlarged and tender. Eventually a copious amount of pus and blood was one night evacuated through the urethra and the patient at once relieved. A considerable time elapsed, however, before he was freed from all of his symptoms. In the second case there was anal pain on attempts at walking, progressively increasing and especially distressing and painful vesical tenesmus, constant pain in the glans penis, especially in micturition, and finally persistent burning pain. At times blood appeared in the urine, which contained also a few purulent filaments. On rectal examination the prostate appeared enlarged, smooth, softly elastic and tender to the touch, as was also the vesical trigone. The patient had been incapacitated for work for nine months and was in a desperate state. Castration was performed and remarkably rapid improvement followed. After some time, however, the symptoms again grew worse and persisted with varying intensity. In the third case symptoms of severe, purulent, chronic prostatitis developed, the pain on walking and standing being particularly severe. The lateral lobes of the prostate were intensely elastic and extremely painful. Under treatment improvement ensued, but the prostate remained enlarged and painful. In the fourth case suppuration took place in the prostate and in both testicles.

It is assumed that in all of these instances the normal integrity of the affected gland was previously impaired. The long persistence of the pain at the anus and the sacrum and the difficulty in micturition point conclusively to injury of the structure of the gland—either contusion or laceration. As the accident was unattended with hematuria and urinary infiltration, the injury could not have involved the mucous membrane of the prostatic urethra, and as there was no immediate difficulty in defecation it is probable that the rectum also escaped. It is thought that definite peculiarities, such as a deficiency in the fat of the buttocks, the situation of the gland close to the anal orifice, relaxation of the

[1] Centrabl. f. die Krankheiten der Harn- und Sexual-Organe, B. xi H. 1, 2.

sphincter ani—thus conditions favoring transmission of force directly to the gland—may be important factors in the etiology of the lesion. In addition a latent morbid condition of the gland may be essential. The prognosis of the disorder appears unfavorable, all of the patients in the cases reported having been incapacitated from the pursuit of their respective avocations. The usual medicinal measures proved ineffectual, and some surgical measure, such as resection of the spermatic cord or total extirpation of the prostate gland, would appear indicated.

CONDITION OF URINE IN RELATION TO DISEASE OF THE STOMACH.

The determination of the degree of acidity of the urine furnishes a guide as to the alkalinity of the blood and as to certain relations between variously reacting secretions of the digestive glands and the reaction of this excretion. Examination of the urine for ferments may afford an explanation of the fate of these bodies after the performance of their functions. When the stomach-tube can be used, a study of the gastric juice will yield information with regard to the disturbances in the digestive chemistry in cases of secretory functional disease of the stomach. If the use of the tube be contraindicated, examination of the urine may furnish correct guidance. It is well known that the acidity of the urine diminishes, and finally disappears, after a meal, in consequence of the withdrawal of acid from the blood for the purposes of gastric digestion. Reasoning by analogy it has been suggested that the acidity of the urine must vary in association with diseases of the stomach attended with increased or diminished secretion of gastric juice.

To test the accuracy of these views and to determine the practical utility of their application, Friedberger[1] undertook a study of the urine under various conditions. During a period of hunger there was but slight variation in the degree of acidity. By avoiding irritation of the stomach and excluding gastric digestion, through the practice of rectal feeding, it was found in a case of slight hyperacidity that the introduction of food into the bowel was followed by increased acidity of the urine, and this is attributed to the withdrawal of alkali from the blood for purposes of intestinal digestion. The conclusion is therefore reached that if diminution in the acidity of the urine after the taking of food by the mouth is under ordinary circumstances an index of the acidity of the gastric juice, the increased acidity of the urine after the administration of food by the rectum may be considered an index of the activity of intestinal digestion. Deviations from this relation may be significant in the recognition of diseases of the intestines and its glandular appendages. They would be less trustworthy in connection with diseases of the stomach on account of the disturbing influence of the alkaline intestinal digestive secretion upon the acidity of the urine. However, the reaction of the urine within the first few hours after the ingestion of food must be largely influenced by the character of the gastric secretion. In two cases of gastric achylia, with an absence of free hydrochloric acid from the gastric juice, and in one case of carcinoma of the esophagus, the maximum diminution in the acidity of the urine appeared earlier and lasted a shorter time than normal after ingestion of food by the mouth. In another case of carcinoma, however, the conditions differed little from the normal. Of two cases of gastric ulceration the reduction in the acidity of the urine following the ingestion of food lasted longer than normal in one and scarcely longer in the other. From these observations it is concluded that when rectal feeding is practiced, the acidity of the urine is increased for some hours thereafter, instead of being diminished, as it is after ingestion of food by the mouth. In the presence of disease of the stomach attended with diminished secretion of hydrochloric acid the maximum reduction in the acidity of the urine after meals occurs earlier than normal; while in the presence of disease with increased secretion the reduction occurs later. These relations are, however, not so constant and not always so pronounced as to be available for diagnostic purposes. Inasmuch as these observations demonstrate that the acidity of the urine does not depend on gastric digestion alone the amount of pepsin in the urine was investigated. Observations in cases of carcinoma, gastric achylia and hyperacidity showed that an interdependence exists between the secretion of pepsin by the stomach and the elimination of pepsin with the urine, in such a way that if but little pepsin be found in the urine it may be concluded that but little has also been secreted by the stomach. In some cases of excessive gastric secretion the amount of pepsin in the urine was distinctly greater than in health, while in others it was scarcely greater, so that in the diagnosis of the former condition no confidence can be placed in the results of examination of the urine for pepsin. The conditions are different, however, in cases of deficient gastric secretion, as here the amount of pepsin eliminated with the urine is diminished. This occurred with such constancy under the conditions named, and was wanting in connection with all other forms of gastric disturbance, that its semeiologic significance must be accepted.

[1] Deutsches Archiv f. Klin. Med., B. lxv, H. 5 u. 6, p. 567.

FUNGOUS DISEASE OF THE CORNEA.

Leber, Uhthoff, Fuchs, and others have described rare cases of infection of the human cornea with organisms belonging to the moulds. Recently Wicherkiewicz[1] recorded an instance of this kind: A servant girl dropped a piece of potato, covered with dirt, into the eye; three weeks later there had developed a yellowish-white mass on the central portion of the cornea, the marginal vessels being congested, and the anterior chamber containing pus. The process appeared slow and chronic in its course, painless, and the mass was elevated and firm. Examination of a piece of the mass showed that it con-

[1] Arch. f. Augenheilk., xl.

sisted of a dense network of fungous threads, and cultures gave rise to pure growths of the mould—penicillium glaucum. Treatment succeeded in checking the process, but not without permanent corneal opacity, greatly diminishing the vision of the affected eye.

THE ALLEGED ANTIMALARIAL INFLUENCE OF LIME.

The United States Marine-Hospital Bureau republishes, from the *Revue d'Hygiene,* in one of its latest weekly reports, an article on the antimalarial effects of lime, by Grellet. The author notices the fact that in several localities in France malaria has entirely disappeared since lime has come to be generally used for fertilizing purposes, the status as to drainage, stagnant waters, etc., remaining unchanged. Following out the line of inquiry thus suggested, Grellet found that in a number of regions where the soil is rich in lime, malaria is absent, though other conditions that favor it prevail. He suggests that a thorough investigation be made as to the relation between the nature, and especially the constituents, of the soil and the malarial germ. So far as we have noticed, this coincidence of the existence or use of lime in the soil and the absence of malaria has not been remarked by recent writers on the prevention of this pest of mankind, and certainly we have not seen accounts of any experimental researches on the action of lime salts on the plasmodium or its hosts. If there should be, by any possibility, anything in it, the suggestion is worth following up.

DRUG FIENDS AND JURIES.

A medicolegal point of some interest and, though possibly not altogether new, one that will bear repetition, has been made by Dr. C. C. Stockard.[1] It is the question of the fitness of drug habitués for places of trust generally but particularly for jury duty. One such individual told him that were he in such a position, rather than be tied up on a jury where there was no opportunity for his getting his accustomed dose, he would consent to the hanging of one he was sure was an innocent man, and the Doctor believes he was no exception in this. We have never happened to hear of a juror being challenged for cause because he was an opium or alcoholic habitué, but there would seem to be no better ground. In fact, we doubt whether this possibility always or even often occurs to the mind of a lawyer in selecting a jury. In case of the opium habit there must be considered the special mental idiosyncrasies from the habitual use of the drug as well as the effects of deprivation, and the question might arise as to how supplying or not the needs of some unfortunate victim of habit on the jury might affect the validity of the verdict.

SANITARY SUPERVISION OF HAVANA, CUBA.

The report of Major W. C. Gorgas, surgeon U. S. A., chief sanitary officer at Havana, shows for April, 1900, a total of 482 deaths in a population which, according to the official census, numbers 235,000. The principal causes were: tuberculosis, credited with 80 deaths; enteritis, 48; malaria and pernicious malarial fever, 30; meningitis, 22; pneumonia, 18; la grippe, 18; and bronchitis, 17. During the month 137 marriages were reported and the relatively large number of 1084 births. Attached to this report, in the office of the surgeon-general of the army, is a tabulated statement, by months, of the deaths from all causes and from yellow fever since 1890. In only five months during the past 124 months has the number of deaths from all causes been smaller than in April, 1900. In January and February, 1890, the number was respectively 441 and 463; in February, 1893, 442; and in February and April, 1894, 470 and 467. The average monthly number of deaths in 1897 was 1510, and in 1898, 1770, but in 1899 this average fell to 680. The beneficial effects of a strict sanitary supervision of the city is manifest in the reduced mortality lists since Jan. 1, 1899. It is yet too early in the history of American sanitary methods in Havana to speak of their influence in the suppression of yellow fever, but it may be noted that since Jan. 1, 1890, there have been only three months in which no death has been recorded as caused by yellow fever, and these three months have all occurred since American methods were put in force, February and May, 1899, and April, 1900.

[1] Virginia Medical Semi-Monthly, April 27.

THE ETIOLOGY OF TETANUS.

In view of the uncertainty of our knowledge about the exact etiology of tetanus, especially of the so-called rheumatic and idiopathic forms in which the points of entrance are obscure, to say the least, the conclusions of Thalmann,[1] obtained from an extensive experimental and literary research, may be of interest. Thalmann was not able to produce tetanus in guinea-pigs by introducing tetanus bacilli into the stomach, intestines, or urinary organs, no matter whether diseased or healthy. The conditions in the oral cavity do not seem to differ from those of the skin as regards infection with tetanus. Wounds of the nose present favorable conditions for infection both directly as well as through inspiration. When healthy the respiratory passages are impervious both to toxin and to bacilli, but if catarrhal states exist infection may take place. The introduction of spores into external wounds produces chronic, fatal disease without tetanic manifestations. Exposure to cold has no influence on the course of the disease in cases of external infection. There is some clinical evidence that the infection atrium of "idiopathic" tetanus is to be sought in the nose and in the oral cavity, and Carbone and Perrero found tetanus bacilli in the bronchi of a patient with so-called "rheumatic" tetanus. Because tetanus bacilli lose their virulence when exposed to oxygen, Thalmann recommends that in protracted instances of "rheumatic" tetanus, inhalation of oxygen and expectorants be employed in addition to antitoxin. It is not impossible that tetanus may result also from infection through the tonsils.

THE MEDICAL PROBLEMS OF THE TRANSVAAL WAR.

The success of the medical arrangements for the present war in South Africa has been so complete and so generally commended that we are apt to think they do things altogether better over there than we can here. Our many shortcomings in the medical management of the recent Spanish-American War, as worked up

[1] Ztft. f. Hyg. u. Infektionskr., 1900, xxxiii, 387.

more Americano by the yellow press, are apt to occur to us in striking contrast. Now comes, however, a correspondent of the *London Times,* who points out that the medical outfitting of a single army corps with its lines of communications, exhausted England's home supply of medical officers, and that the favorable outcome so far has been due not to foresight and due provision for all possible needs, but to a singular good fortune. Thus far the war has not been on any wholesale scale, the engagements have been mostly small and insignificant, as compared with European wars and those in our Civil War, and even among them we must consider such as Elandslaagte, where the wounded lay out all night on the field they had won. If there had been an engagement like that at Gettysburg or Plevna, the medical resources would have been most notably deficient. Were the war conducted in a country like Cuba, or were the troops massed in camps in a climate like that of even Florida or Georgia instead of one notoriously healthy and in peaceable times a health resort, the case would have been also different, and the tax on the medical corps infinitely increased. The sick-roll as well as the casualty list are both shining examples of good luck as well as of good medical management. All these things must be considered when we are inclined to draw unfavorable comparisons between our own experience and that of the British in the present war. The conditions have been entirely different, and nearly altogether in their favor. Besides those already mentioned, we must remember that on a peace footing their army, in all its departments, was many times as large as ours at the outbreak of the war with Spain, and the strain on the machinery correspondingly less. In spite of this, it has been, as we learn from many sources, most severe, and almost disabling, and the defects of the British system are being very seriously discussed, in view of the still greater tasks a war on a large scale, a general European war involving Britain let us say, would exact. Our own experience of unpreparedness has been to some extent repeated in Great Britain; we both need to give attention to the better organization of our army medical departments. Taking everything into account, however, it does not appear that on the whole our army medical corps will suffer from any comparisons.

INCREASE OF CANCER IN PRUSSIA, SAXONY AND BADEN.

An important statistical study of the mortality from cancer in these countries, during recent years, is reported by Maeder[1] from Flügge's hygienic institute in Breslau. In 1894 Finkelnburg published a similar one on the distribution and frequency of cancerous diseases in Prussia, with especial reference to the Rhine provinces, for the years 1881 to 1890 inclusive, and Maeder's work in a measure forms a continuation of Finkelnburg's. The former's figures are for the years 1891-1896. They show conclusively that in Prussia the number of deaths from cancer has steadily increased, while those from tuberculosis, which are used for purposes of comparison, have fallen off. Furthermore, the mortality from cancer is over twice as great in the cities as in the country. The increased death-rate from cancer per year equals .115 per cent.—.098 per cent. falling on men and .133 per cent. on women—of the total deaths. The increase in cancer per year equals .79 per cent. of 10,000 living—.18 per cent. falling on women, .165 per cent. on men. Both sets show a preponderance of cancer among women. Similar general results were obtained from a study of the statistics of Saxony and Baden, in which the registration of deaths is better controlled and more reliable than in Prussia. It is important to note that certain regions that Finkelnburg's statistics showed to be especially prone to cancer still maintain this unenviable distinction. This is regarded by Maeder as a strong point in favor of the correctness of his results. He points out that his statistics can not be regarded as founded on absolutely correct figures, yet such a thing as error in diagnosis, for instance, would remain about the same from year to year throughout as large a territory as his material covers. He does not believe that the diagnosis of cancer can have become so much more refined from year to year, in city and in country, as to account for the increase shown by the figures. He believes that the mortality statistics are the only ones that can be used for the purpose of securing accurate data as regards the supposed increase in the frequency of cancer, because the information obtainable as to morbidity would be decidedly unreliable. Patients with cancer commonly go from physician to physician, and in the early stages the diagnosis of carcinoma is often uncertain. The cause of the increase in the disease remains obscure. The increase does not appear to be due to a falling off in tuberculosis, because the increase in cancer is too large to be explained thus.

[1] Ztft. f. Hyg. u. Infektionskr, 1900, xxxiii, 235.

SARCOMA OF THE PERICARDIUM.

The case of primary, diffuse small-celled sarcoma of the pericardium, recently described by Williams and Miller,[1] is certainly a remarkable one. It occurred in a boy, aged 13 years, the first symptoms appearing a few months before death; prominent among them were dulness over the left lung in front, great increase in the force of the heart's beat, a transitory left pleural effusion followed by a progressive enlargement of a solid nature of the entire chest so that a hard tumor could be felt by pressing the fingers in between the ribs, especially in front. Deglutition became exceedingly difficult, and dyspnea was marked. Toward the last breathing was possible only by a leaning forward at an angle of 45 degrees, and to the left, with the head resting on a low table. General dropsy developed. The post-mortem showed an enormous tumor, filling up the entire chest, produced by a diffuse thickening of the parietal pericardium, which was in some places 6 cm. in thickness. The interior of the pericardial cavity was quite smooth; the heart was normal, free from tumor growth, but smaller than usual. The mediastinal and peribronchial lymph-glands were but little enlarged; some small areas of tumor tisue were present in the posterior parts of the lungs, especially in the lower third of the left one. It goes without saying that the lungs

[1] N.Y. Med. Jour., April 14; THE JOURNAL, April, 28, ¶ 23, p. 1056.

were greatly compressed, and, with the tumor and the heart, weighed over six pounds. The microscopic structure of the tumor was that of a small-celled sarcoma. The enormous, uniform thickening of the pericardium and the slight enlargement of the peribronchial and mediastinal glands, and absence of glandular and other enlargements elsewhere in the body, justify the conclusion of Williams that the growth was primary in the parietal pericardium, developing from its lymphatic layer. Tumors of the pericardium are very rare, the primary less frequent than the secondary. The reported cases show two forms of growth, one occurring in a nodular form, the other as a diffuse, uniform, and enormous thickening of the parietal layer. Williams and Miller's case is a classic example of the diffuse form. The predominating clinical feature in most of the cases of this kind has been severe dyspnea continuing throughout the course of the disease.

TRUMAN W. MILLER, M.D.

BORN, MARCH 2, 1840. DIED, MAY 31, 1900.

Dr. Truman W. Miller was a graduate of Hobart College, Geneva, N. Y., and received his medical education at the College of Physicians and Surgeons of New York City. In 1862 he was appointed medical cadet, U. S. A., and was promoted to acting assistant-surgeon in 1863. In the same year he received his degree of M.D., from the Geneva Medical College. He served in the Army of the Potomac until after the Battle of the Wilderness, when he was transferred to Chicago and assigned to duty as post and examining surgeon, which position he held until the close of the war.

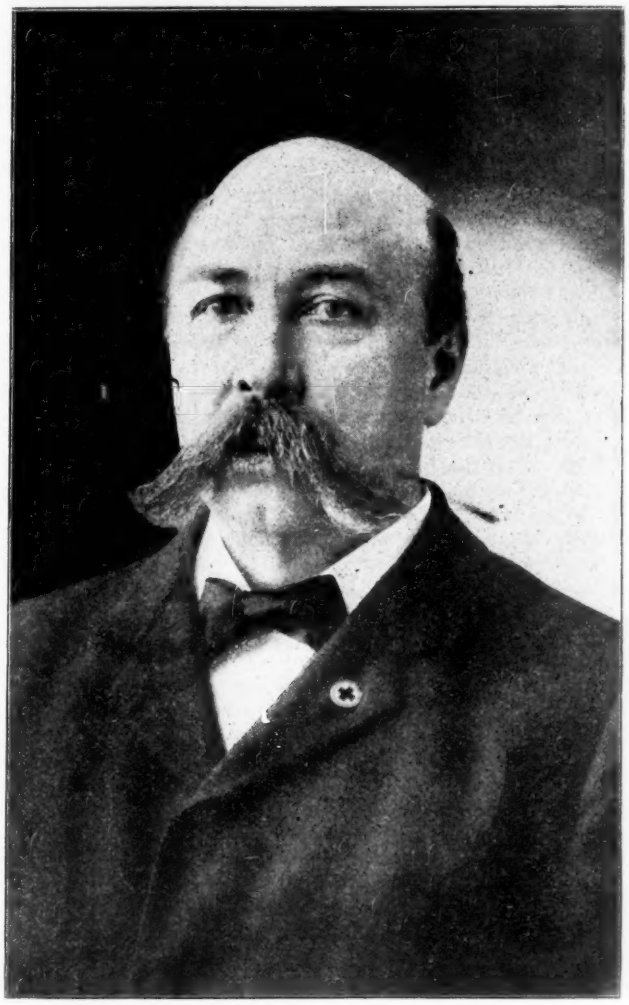
In 1873 he was appointed assistant-surgeon, U. S. Marine-Hospital Service, and in 1877 was promoted to surgeon, which position he held until his resignation in 1886. For six years he was surgeon of the 1st Regiment, Illinois National Guard, and was a member of the Grand Army of the Republic.

During his very active life he served on the staffs of many of Chicago's prominent hospitals, and at the time of his death was president and professor of surgery of the Chicago Policlinic; consulting surgeon to the St. Joseph, German, and Alexian Brothers' hospitals; surgeon to the Maurice Porter Children's Hospital; surgeon-in-chief to many of the leading lines of railroads, and medical referee and consulting surgeon to a number of life and accident insurance companies.

He was an active member of all the leading national and local medical societies, and vice-president of the Board of Trustees of the AMERICAN MEDICAL ASSOCIATION. After the death of Dr. J. B. Hamilton, he personally conducted the affairs of THE JOURNAL of the ASSOCIATION until the appointment of the present editor.

Dr. Miller was eminently a man of action and was not given to writing. He was possessed of a pertinacity of purpose that knew not to fail, and whatever he undertook was carried out if it lay in human possibility. His executive ability was extraordinary: questions were solved with rare judgment and apparently on the spur of the moment, yet when analyzed it was found that all possibilities had been carefully considered. The Chicago Policlinic had its origin with him, and to his exertions and wise management are due the sound financial and professional success which that institution enjoys. He was its first and only president, and, up to the time of his death, possessed the absolute confidence of all his colleagues.

One of his noblest traits of character was his great kindness to the young man. Many young men, both within and without the profession, owe their start and success in life to his kind advice, his wise counsel and his generous material aid, and the latter, when needed, was never found wanting. Nor was his generosity limited to young men, for many of the older ones who hold high professional positions owe much to his aid and influence.



TRUMAN W. MILLER.

To his friends he was always true, to his enemies, just, and where he could not commend he never condemned. He was of a jovial disposition, saw the bright side of life, and was a most enjoyable companion. As his honor was unimpeachable and his integrity of purpose never questioned, his influence was widely felt.

The Doctor was twice married. His second wife and one child survive hm, and two married daughters by his

first wife. His habits of life were plain and he was a man of the people. He died full of honor and the love of his fellow men, and his record is clear.

Of the life that is gone let us cherish the good,
'Tis sufficient, whate'er be said,
Let us think of the heart so noble and grand
And bury all else with the dead.

Medical News.

ILLINOIS.

A HOME and hospital for deaconesses was dedicated May 24, in Peoria.

ST. CLARA'S Hospital, at Lincoln, is to have a new building that will cost $2000.

A NEW pension examining board has been established at Geneseo. L. A. Ferry, Geneseo; W. A. Grove, Galva, and W. H. Cole, Kewanee, have been appointed members.

DR. J. H. HEWITT, Galesburg, has returned to the Klondike, where he has been for the past two years. He will practice his profession there.

Chicago.

DR. J. B. MURPHY made the address at the commencement exercises of the Galesburg Hospital, May 22.

A SPECIAL examination by the Illinois State Board of Health, for physicians only, will be held at the Great Northern Hotel, June 18-20.

DR. ARTHUR DEAN BEVAN delivered the commencement address before the graduating class of the Illinois Training School for Nurses, May 28.

CARDS ARE out announcing the coming marriage of Dr. L. Harrison Mettler, of this city, to Miss Minnie Warner, of Clinton, Ill., the event to take place June 12.

TWO NEWLY incorporated institutions are the Chicago Physiological School and the Illinois School of Electro-Therapeutics. The latter will offer two-weeks courses for physicians and the former is for the education and development of delicate, neurotic and slightly subnormal children, and is affiliated with Rush Medical College.

MEDICAL SCHOOLS IN GOOD STANDING.

Under the provisions of a resolution adopted July 11, 1899, the Illinois State Board of Health will not consider in good standing any medical college which does not, after January 1, 1900, require of students—excepting graduates of reputable colleges of arts and sciences, or of reputable colleges of dentistry, pharmacy or veterinary medicine, to whom one year's advanced standing may be granted—as a condition of graduation, an attendance on four full courses of lectures of at least six months each in four separate years. In the enforcement of this resolution the Board has refused to admit to examination graduates of 1900 from over forty well-known medical institutions, located in Alabama, Georgia, Kansas, Louisiana, Maryland, Michigan, Missouri, New Hampshire, New York, North Carolina, Tennesseee, Texas, Vermont and Virginia.

EXCURSION TO PARIS.

The committee having in charge the excursion to the International Medical Congress, Paris, for the Illinois, Iowa and Missouri state medical societies, has arranged for a special train from Chicago to New York. This will consist of vestibuled Pullman sleepers, leaving on the afternoon of June 26, arriving at Albany, N. Y., the morning of the 28th, in time for breakfast. From Albany one of the Hudson River day-line steamers will be taken for New York, arriving there about 6 p.m. The cost for the entire trip, including railroad fare, sleeper and hotels, will be $18.50, provided the party numbers one hundred. In order to insure the required number, those wishing to join this party are invited to do so. Information may be obtained from Dr. J. W. Pettit, Ottawa, Ill.; Dr. J. W. Cokenower, Des Moines, Iowa; or Dr. Chas. Wood Fassett, St. Joseph, Mo.

NEW YORK.

At a recent operation in St. John's Hospital, Long Island City, on a man who had shot himself in the breast, it was found that the bullet had shattered the sternum, and that splinters of this bone had penetrated the lung. The operator, finding that he had made a cut into the pericardium, inserted five sutures and closed the rent, but the incision gave a fine opportunity to those present to observe the action of the heart. The man died five hours later from internal hemorrhages, as proved by the autopsy.

New York City.

SNEAK THIEF ROBS PHYSICIAN.

An office thief recently entered the house of a physician in Harlem while the latter was out, asked to be allowed to wait and while doing so undertook to appropriate some of the Doctor's instruments. Being interrupted by the physician's wife, the thief choked her and then ran from the house. He was caught and turned over to another man who came running up and said that he was a detective, but the thief and the alleged detective took a direction away from the police station. When the deception was discovered the chase was renewed and the thief finally arrested.

ENDOWMENT NEEDED.

Roosevelt Hospital has made an appeal for $500,000 to carry on its work. In the twenty years that it has been in existence its scope has greatly increased. Instead of the 59 employes required twenty years ago, the number is now 200. Since 1881 five departments have been added, and the ambulance service is now heavier than ever before, there having been no less than 4041 ambulance calls in the past year.

BETH-ISRAEL HOSPITAL.

The corner-stone of the new building for this hospital was laid with appropriate ceremonies, May 27. Addresses were delivered by Randolph Guggenheimer, Isidor Strays, the Rev. Dr. Schulman, and Dr. A. Jacobi. This institution was founded in 1890, and being situated in the center of an exceedingly thickly populated district, its work has steadily increased until now the demands made on it are far in excess of the accommodations. The new building, which will accommodate 100 patients, is to have a modern equipment. It will be five stories high, covering a plot of ground 78 by 112 feet.

PENNSYLVANIA.

ON MAY 23, seventeen dealers were arrested in Pittsburg for violating the oleomargarin law.

DR. JESSE COOPER, New Castle, has gone to Europe to do post-graduate work.

THE FOURTEENTH annual commencement of the Western Pennsylvania Medical College was held May 22, in Pittsburg. Chancellor W. J. Holland conferred the degree of Doctor of Medicine on a class of sixty-five.

Philadelphia.

DR. JOHN H. PACKARD, who has for the past few months been visiting Naples, Rome and other cities in the interest of the Academy of Fine Arts, has returned home.

THROUGH THE will of William E. P. Baker, $200 has been given to the Germantown Dispensary and Hospital and to the St. Luke's Home and Hospital.

DR. HENRY W. STELWAGON, of the Jefferson Medical College, who has been elected an honorary member of the National Dermatological Society of Italy, sails soon to attend the International Dermatological Congress to be held in Paris.

THROUGH the will of Charles T. Matthews $500 has been left to the Howard Hospital; $300 to the Philadelphia Home for Incurables; $300 to the Children's Hospital. Also $500 was given to the Children's Seashore House at Atlantic City, N. J., and $500 to the Hospital of the Good Shepherd for Children in Delaware County.

QUARANTINE STATION.

The Reedy Island Quarantine Station of this city is to be further reinforced by the addition of the *Powhattan*, which at one time was used as an auxiliary gunboat of the navy, and was assigned to this station by the United States Marine Hospital Service. The vessel is 108 feet long, 21 feet beam with draft of 11 feet. She has a maximum speed of twelve knots an hour, and has recently been overhauled.

UNIVERSITY ALUMNI OFFICERS.

At the last annual meeting of the Philadelphia Alumni

Society of the medical department of the University of Pennsylvania the following officers were elected: president, J. Madison Taylor; honorary vice-president, C. C. Harrison; vice-presidents, Henry Beates, Jr., Thomas H. Fenton, Edward W. Holmes, and J. L. Forwood; recording secretary, W. S. Wadsworth; corresponding secretary, B. F. Stahl; treasurer, Herbert B. Carpenter.

EXAMINATIONS FOR ENTRANCE.

The entrance examination for the medical department of the University of Pennsylvania will be held at the University, June 14-18, and September 21-25. Similar examinations are to be held in twenty-one other cities of the United States, New Brunswick and Prince Edward Island. The other cities in the state where such examinations are to be given are, York, Harrisburg and Pittsburg.

OHIO.

AT THE RECENT examinations of the state medical board 250 received license to practice medicine.

STARLING MEDICAL COLLEGE.

At a recent special meeting of the trustees of Starling Medical College of Columbus, the faculty appointed was as follows: Otto Frankenberg, professor of obstetrics; Louis Kahn, professor of anatomy; Charles B. Moray, lecturer on physiology; W. D. Deuschle, lecturer on nervous diseases; J. M. Phillips, on pathology; J. H. Upham, on diseases of children; John L. Gordon, on physical diagnosis; and John Rauschkolb, lecturer on pharmacy.

ANNUAL REUNION.

The annual banquet of the Society of Internes of the Cincinnati Hospital was given May 19. Speeches were made by Drs. E. W. Walker, A. B. Thrasher, S. E. Allen, D. I. Wolfstein, John Noffert, Rushville, Ind., and Shaler Berry. Louis Schwab was toast-master. The election of officers resulted as follows: president, Robert Stewart; vice-president, M. B. Brady; secretary, A. Freiberg; treasurer, J. C. Oliver, John Noffert, class of 1849 was elected honorary president.

MARYLAND.

DR. GEO. L. BROADRUFF has been elected to the Cumberland City Council.

DR. SAMUEL T. HAFFNER has been appointed Frederick County health officer, vice Dr. D. M. Devilbiss.

Baltimore.

DR. WM. H. WELCH has been appointed to deliver the "Shattuck lecture."

DR. WILLIAM OSLER leaves for his summer vacation in Europe, June 16.

DR. WILMER BRINTON has resigned the chair of obstetrics in Baltimore Medical College, and Dr. J. M. H. Rowland has been elected to fill the vacancy. Dr. J. Williams Lord has been elected associate professor of anatomy in the same institution, vice Dr. Rowland.

THE FOLLOWING appointments are announced at the Woman's Medical College: John L. G. Lee, LL.B., professor of medical jurisprudence; Louise Erich, adjunct professor of hygiene; M. Ekstromer, professor of chemistry; Richard H. Thomas, president of the board of trustees.

THE QUARANTINE physician has received strict instructions with regard to the introduction of plague into Baltimore through ships coming from South American ports, especially Rio Janeiro, where the disease appears to be getting a foothold.

APPROPRIATION FOR SMALLPOX EXPENSES.

The health commissioner appealed to the board of estimates for an appropriation to meet the expense connected with the recent outbreak of smallpox and the salary account of the vaccin physicians and health wardens. The sum of $2112 was appropriated from the contingent fund, which will allow $50 a month salary to each physician, and $500 for clothing and bedding destroyed, and maintenance of families during the sickness of patients.

SANITARY CONDITION OF SCHOOLS.

The Good Government Arundel Club has done a commendable work in calling attention to the wretched condition of our public school buildings. The building inspector says that 50 per cent. of the regular school buildings are probably unfit for use, and not more than 30 per cent. of these can be altered to meet sanitary requirement. The money at his disposal—$120,000 for all public buildings—will admit only necessary repairs.

NORTH CAROLINA.

BOARD OF EXAMINERS.

At the annual session of the North Carolina State Board of Medical Examiners, fifty-two were licensed to practice medicine. The Board was organized and, as constituted for the next two years, is as follows: E. C. Register, Charlotte, president and examiner in materia medica and therapeutics; J Howellway, Waynesville, secretary and treasurer and examiner in anatomy; D. T. Taylor, Washington, examiner in surgery; Thomas Anderson, Statesville, examiner in physiology; Albert Anderson, Wilson, obstetrics and gynecology; T. S. McMullen, Hertford, chemistry and microscopy; J. C. Walton, Reidsville, pathology and medical hygiene.

ALABAMA.

THE NAME of the *Alabama Medical and Surgical Age*, published in Birmingham, was changed with the May issue, to *The Alabama Medical Journal*. Dr. John C. Legrand continues as editor and proprietor.

TEXAS.

AT THE ninth annual commencement of the medical department of the University of Texas, held in Galveston, May 13, Dr. W. S. Carter delivered the address, and degrees were conferred on sixteen young men.

NEW HAMPSHIRE.

THE EXAMINATIONS for license to practice medicine will be held at the state house, Concord, June 19 and 20.

INDIANA.

DR. A. C. HOLTZENDORFF, Plymouth, left May 26 for a tour of Europe, and will later attend the International Medical Congress at Paris.

AT THE annual meeting of the Board of Trustess of the Indiana Medical College, John Geis was made professor of toxicology and forensic medicine; Edward D. Clark, surgical pathology; and John Sluss, professor of anatomy.

RHODE ISLAND.

THE NEW bacteriologic laboratory of the Rhode Island Hospital, in Providence, was opened early in May. J. W. Eby, a member of the original staff, made the address.

THROUGH the wills of John Nicholas Brown and Harold Brown, both of Newport, $1,000,000 has been left in trust for the benefit of the Rhode Island and the Butler Hospitals.

CONNECTICUT.

DR. MOSES C. WHITE, professor of pathology in Yale University, has resigned. The resignation was accepted and he was elected professor emeritus in the medical school's faculty. Dr. Charles Bartlett was advanced to a full professorship, to succeed Dr. White, and Dr. Otto Ramsey, of Johns Hopkins University, was elected a member of the faculty, the chair to be assigned later.

KANSAS.

Topeka.

CHRIST HOSPITAL has arranged to send out a missionary nurse among the poor of the city, gratis on the request of any physician.

DR. W. B. SWAN, of the State Board of Health, in his last report says smallpox in the state is diminishing rapidly, as there are now only 366 cases.

ADDITION TO HOSPITAL.

The Stormont Hospital's board of trustees has awarded the contract for building an addition to the hospital, to cost about $13,000, and to be completed in five months. It will be three stories high and provided with a fine new operating and sterilizing room and all modern conveniences. The addition will be built with money furnished by Mrs. G. G. Gage, of Topeka.

CALIFORNIA.

SAN FRANCISCO'S PLAGUE.

Since THE JOURNAL'S last week's report on the plague conditions in San Francisco, an injunction has been granted to prevent the Federal and local health authorities from discriminating against the Chinese in the matter of precautions against the plague. This means that the Chinese can not be forcibly inoculated with antiplague serum and that they can not be prevented from entering or leaving San Francisco by the Federal quarantine officers. A Chicago paper has sent Dr. Geo. F. Shrady, of the *Med. Record*, to inquire into the plague scare, and he is quoted as saying (May 28): "So far as I can learn from a conversation held this morning with the president of the health board, there is at present no case of bubonic plague in San Francisco. I have asked to see even one such case, and no one high in authority is able to produce one. There has not been reported, either officially or otherwise, a suspected case since May 15. These are the facts so far as I have been able to obtain them up to the present time. From such a point of view there is every reason for congratulation, not only on account of the great interests at stake from the commercial side of the question, but very much more because of the otherwise possible wholesale sacrifice of precious lives." The cases not previously reported in THE JOURNAL follow:

CASE 3.—A Chinese girl, aged 16, was employed and died in a cigar factory. She was seen on May 11, by the bacteriologist, who found a large bubo on the right side below Poupart's ligament, over which a sticky black plaster had been applied by the Chinese physician. The body was well nourished and plump. The glands were removed and found to be as large as a walnut, very dark on section, the cut surface having a mottled appearance. The interior of the gland was soft and mushy. A smear preparation showed the pest organisms in enormous numbers, and apparently in pure culture. Diagnosis was confirmed by inoculation of guinea-pigs and rats, all dying with typical lesions of the plague.

CASE 4.—Another Chinese girl, aged 17, was a house servant in a Chinese family at No. 730½ Commercial Street. She was taken sick suddenly, with headache, fever, constipation and pain in the abdomen. On the third day she was taken to the Pacific Hospital, Stockton and Chestnut Streets, where she was delirious and the diagnosis of typhoid fever was made. She died in two days, or on the fifth day of the disease. She was seen after death, on May 9, by Drs. Wilson and Kellog, the latter removing the lymphatic glands from a well-marked bubo on the right side near the saphenous opening. The glands were very large, dark and mottled on section, soft and necrosed in the interior. Microscopic examination showed the plague organism in large numbers. Diagnosis was confirmed by inoculation.

CASE 5.—A male Chinese, aged 53, a laborer and married, died, May 14, at 740 Pacific street. He had been in California ten years. There was a bubo on the left side on the anterior surface of the thigh, below Poupart's ligament; the skin was slightly discolored. The glands were removed by the bacteriologist, Dr. Kellogg, who found the same appearance described above. Microscopic examination showed the bacillus pestis, and the diagnosis was confirmed by inoculation.

[Press dispatches, May 30, announce the finding of another dead Chinaman, the autopsy showing every indication that death was due to plague.—ED.]

LONDON.

EDINBURGH'S CHAIR OF MEDICINE.

Dr. John Wylie has been appointed to the chair of medicine in the University of Edinburgh, rendered vacant by the death of Sir Thomas Grainger Stewart. Dr. Wylie is 58 years of age. He graduated with honors in 1865, and was awarded a gold medal. He became lecturer on pathology in the Extra-Academical School and later lecturer on medicine; in 1876, assistant physician to the Royal Infirmary, and in 1882, physician. His principal published work is a book on "The Disorders of Speech," which appeared in 1894.

THE MOSQUITO THEORY OF MALARIA.

What has been well termed a "dramatic expedition" is being organized by the Colonial Office to finally prove to the satisfaction of the public at large that malarial fever is directly attributable to bites of mosquitoes. Dr. Louis Sambon and Dr. G. C. Low, of the School of Tropical Medicine, who have never suffered from malarial fever, have volunteered to live in a specially constructed hut in the Roman Campagna—a district described by Dr. Manson of the Colonial Office as one of the deadliest spots on earth. Dr. Sambon is an ex-surgeon of the Italian army, who has for many years made a special study of tropical diseases in view of a government mission to Abyssinia, which was never carried out, owing to the Italian defeats. He is now lecturer at the London School of Tropical Medicine. The expedition was suggested to the Colonial Office by Dr. Manson, and the idea was at once accepted. The hut in which these two physicians will live is a wooden building with double casements, covered with special zinc, mosquito-proof netting, and there is a special system of double doors and curtains in the entrance porch. As an additional precaution the beds will be surrounded with mosquito nets. In the day the experimenters will pursue their work in the open air. The chances of being bitten by the special kind of mosquito found in the Campagna are very slight.

PROF. VICTOR HORSLEY'S ATTACK ON MODERATE DRINKING.

Prof. Victor Horsley has delivered the second "Lees and Raper Lecture"—a lecture instituted in commemoration of two temperance leaders—at St. James' Hall, before a crowded audience, comprising many of those most prominent in the total abstinence movement. The high scientific position which Prof. Horsley has achieved by his work on the physiology, pathology and surgery of the nervous system places him in an entirely different position from that of most of the medical advocates of total abstinence. Of most it may be said without the slightest reflection on their good faith, that their prominence is obtained by the part they play in advocating total abstinence and not by any scientific reputation on this or any other question. Professor Horsley's address was a bold and uncompromising attack on the principle of moderate drinking. He showed Kraepelin's apparatus for ascertaining the "reaction time" of the brain. Kraepelin had found that after a small dose of alcohol the "reaction time" was at first shortened, but this was very quickly followed by a gradual lengthening, and that various additions, subtractions, etc., when performed after taking alcohol appeared to the operator to be done more rapidly, but examination of the records shows that they really have been performed more slowly. As to the effect of alcohol on voluntary movements he said that even a moderate dose gave rise to tremor. The pressure dynamometer showed a slight increase of power; soon followed by a notable decrease, but under the influence of tea there was no decrease. The cause of the preliminary increase was not known: it was probably due to a paralysis of the brake-action or resistance to movement, and was therefore proof of a paralyzing action from the first. Dr. Aschaffenberg had showed that compositors set up less type after than before taking alcohol.

THE SOUTH AFRICAN WAR.

The unqualified praise of the work of the army medical service in the South African War has been received with great satisfaction by the profession. Owing to the effete caste spirit, which still prevails in the army, the medical staff has always been treated as an inferior body. Even during the present war the lack of respect is illustrated by the fact that a general, speaking at a public dinner, said that he would rather fall into the hands of the Boers than one army surgeon. Only after a protracted and difficult struggle have the military authorities given the same rank and titles to the officers of the medical corps as are enjoyed by combatant officers. Matters reached such a condition that there was a serious dearth of candidates of the best class to fill vacancies. The war has brought home to the public the fact that the strong influence of social position in the making of appointments has produced inefficient leaders and most disastrous results; that while the combatant officers are, in certain instances, under a cloud, the medical officers, who are despised because they enter the army as a profession by which to live, have for this very reason proved efficient. Speaking at a dinner given to Sir William McCormac and Mr. Frederick Treves, on their return from South Africa, Lord Roseberry bore eloquent testimony to the value of the

services rendered by the medical corps, for while so much criticism prevailed as to the military operations, nothing but the most unqualified praise was heard of the medical corps.

THE INFECTIVITY OF TYPHOID FEVER.

At a meeting of the Epidemiological Society, Dr. E. W. Goodall, superintendent of the Eastern Fever Hospital, read a paper on this subject. He remarked that the belief is almost universal that typhoid fever is very rarely communicated directly from the sick to the healthy, but that the fever is, in almost every instance, contracted by the ingestion of water or food contaminated by the alvine discharges of patients. Yet Brettoneau, Trosseau, Budd, Watson, and more recently Collie, maintain its direct infectivity. Of late years there has been a growth of opinion among medical officers of health and of fever hospitals that direct communication from the sick to the healthy is more frequent than was supposed. Numerous instances are recorded of the propagation of the disease among the members of a family or the inmates of a house, and among nurses, ward servants and laundry maids in hospitals. The suggestion that these cases are due to defective drains and unsanitary conditions was refuted by the fact that the hospital cases were confined to the nurses and attendants, other patients remaining exempt. Dr. Goodall believes that direct communication is more easy than was supposed. Petruschky had shown that the urine is highly infective, and in the absence of proper precautions, the infection was frequently conveyed by soiled fingers, and, perhaps, diffused in the dry state, was frequently inhaled in the form of dust. This was particularly liable to occur in the dwellings of the poor, and that it did not occur more often in hospitals was due to the care taken in the removal of the excreta and of soiled linen. Dr. F. F. Carger, superintendent of the Southwestern Fever Hospital, said that there, in nine years, twenty-three of the nurses attending cases of typhoid fever had contracted the disease, and in the same period but one patient has been attacked, although 20 per cent. of the admissions to the typhoid wards were not suffering from that disease. Nurses usually contracted the disease in times of great pressure.

CANADA.

MEASLES is epidemic among the troops at Halifax.

THE SIXTH death from smallpox has been recorded in the quarantine station at Winnipeg.

DR. WESLEY MILLS, professor of physiology at McGill, is at present studying in Leipsic, Germany.

DR. J. D. ARCHIBALD, late house physician to the Hospital for Sick Children, Toronto, has been appointed surgeon-lieutenant in the Royal Medical Corps, Bermuda, and left last week to assume his duties.

SMALLPOX.

DR. MONTIZAMBERT, director-general of public health at Ottawa, has issued a statement that there are now only about fifty cases of smallpox in all Canada, and all of these with the exception of those at Winnipeg are of an exceptionally mild character. Strict and rigid inspection is being maintained along the borders of the western states, and all arrivals from the United States are being closely watched. It appears to be spreading among the mining camps on the north shore of Lake Superior, and it is causing the department of health in Ontario some uneasiness. Dr. Bryce has been at Port Arthur, where the disease has broken out; and a special physician has been sent up from Toronto. The militia authorities have decided to exempt from annual drill this year all regiments from smallpox-infected districts. Special medical reports are now being received by the department, from military districts in which the disease has appeared, and every precaution will be taken to protect the camps.

THE DOCTOR AND THE INSURANCE COMPANIES.

DR. A. FREELAND, Ottawa, writes to the *Canadian Practitioner* complaining of the treatment accorded the physician in the matter of filling out death certificates. The questions on the insurance blanks, to which he calls attention, are: "Is there any tendency to consumption or other hereditary disease in the family?" "When and for what have you attended deceased prior to last illness? Give the immediate and remote cause of death," etc. While these are questions quite proper to be asked by the company's examiner before the acceptance of the person's application, it is certainly nothing short of gross impertinence to ask them of the family physician after the death of his patient. Another piece of effrontery complained of is that these self-same companies require the physician to proceed to a notary's office, and take an oath that the information supplied is correct, although no fee is allowed by them for the trouble. There ought to be a fair solution of these disabilities, and the companies should be brought to understand that the doctor is worthy of his labor in this respect.

THE PROVINCIAL BOARD OF HEALTH AND TUBERCULOSIS.

At the recent session of the Ontario Parliament the local board of health has been empowered to put in force the following legislation: 1. That hereafter all houses and rooms, whether in hotels or otherwise, in which tubercular persons have been, shall be disinfected, and the health authorities shall see to this. 2. That persons must not make false statements as to the existence of such cases. 3. That in government institutions persons suffering from tuberculosis shall be kept from infecting others. 4. That with the above aims in view, health officers shall be urged to require notification of cases of tuberculosis as empowered by the public health act. 5. That the Stratton act—referring to the establishment of sanatoria, and noted in former correspondence to THE JOURNAL—be distributed to health officers, medical men, clergymen, and the public generally, by means of a circular, appealing to them to use their influence to have the municipal authorities avail themselves of its provisions, where necessary in the interests of humanity, and for the saving of life.

LABORATORY WORK IN ONTARIO.

In the report of the Board of Health of Ontario for the year 1899, which has just been sent out, the provincial bacteriologist, Dr. J. J. McKenzie, gives the work of that department for the twelve months. The 1370 specimens examined were as follows: suspected sputum, 629; suspected exudate, 375; suspected typhoid blood, 164; waters for bacteriologic examination, 116; waters for chemical examination, 29; miscellaneous samples, 62; suspected rabies, 5. Of these samples, 1100 were sent in by 300 physicians. Of the 5 suspected cases of rabies, 2 turned out to be the disease. These 2 were from the southern peninsula of Ontario, the district in which practically all our cases of rabies are found. Among the miscellaneous work and investigations was a continuation from last year's work of the study of the character of the bacillus found in grass; and it is pointed out that the discovery of this bacillus in butter is apt to give rise to error in its being mistaken for the tubercle bacillus.

INSPECTION OF MUSKOKA HEALTH RESORTS.

The season having arrived for outings in Muskoka, it may be important to notice the report of Dr. Bryce on this district. After a thorough, personal inspection of the entire Muskoka district, he states that nowhere in the areas inspected is there any danger from the water-supplies, as the provincial board has for some time past been at considerable pains to educate the people of Muskoka up to the necessity of keeping the water-supply free from sewage. He goes on to state that the residents are now taking very great care as regards the disposal of household refuse, in order to prevent effluvium nuisances; and that remarkable progress is being made in modern methods of sewerage disposal in connection with even the smallest resorts of the Muskoka district. The principle recommended for adoption by Dr. Bryce is essentially that of the septic tank, with an overflow to a receiving tank, whence final disposal is made to subsurface tiles; or an artificially made bed in which the principle of final nitrification of the sewage is to be carried out. The larger hotels, accommodating from 100 to 200 guests, may in the future be looked on, with these improvements completed, as object-lessons to many people who go from our towns, of what may thus be done in the disposal of sewage by simple methods, if scientifically and practically applied. Pamphlets descriptive of methods of disposal of house wastes and sewage are issued by the board of health, and are put in the hands of the proprietors of these summer hostelries, so that all may make it their endeavor to keep Muskoka well to the front as a summer resort.

Correspondence.

The Value of the Medical Visit.

ST. LOUIS, Mo., May 28, 1900.

To the Editor:—The value of medical service is estimated by all that is done for the patient. Visits are only incomplete memoranda of time. The value of a visit depends on the time spent in making it, distance and delay at the bedside and what sort of personal service is given in the examinations and in the manipulations of the patient. Hypodermic medications may be required in a locality demanding special anatomic knowledge and some surgical skill. The examination of hidden cavities—the throat, vagina, bladder, rectum, etc.—and the exercise of the *tactus eruditus* may be required. They call for skill as well as outlay, for education, instruments and time. Thoracic and abdominal examinations requiring more or less time are often essential to a correct diagnosis as well as urinary and blood analyses. The taking of blood or sputum for a slide and samples of urine or other excretions is a service that adds to the value of a visit and ought to be estimated and charged for.

Designating a visit without stating what the doctor may be required to do at the visit gives an inadequate idea of medical service. Things may be done at one visit that may save a life, while nothing may be done or required at another one, and that may be a brief call, a few routine directions and continuance of treatment—an ordinary visit. The treatment of a grave case, the visits thereto, or to one not yet well in hand, and those to a case in which death or other critical stage is approaching, necessitate more time and attention than in the ordinary run of self-limited disease. For instance, a visit may be very ordinary or very extraordinary in extent and kind of service rendered, and in result depending on the physician's skill and judgment exercised.

There are many other facts and circumstances not understood by the public, the patient's friends or the courts, embraced in the term "visit," which ought to be made plainer in our fee bills. Services in the crisis of a bad case or dying patient are imperative and we must give them when they are demanded, whether we miss our office hours or attention to other business or less imperative cases, and in such a visit extra time must be charged for and this should be cheerfully paid. The sacrifice of the office hours is great loss, and damages and sometimes endangers ruin of the doctor's best business. The night visit sacrifices the doctor's comfort, the office hour visit his best income. In the out-of-town visit these facts are considered in the charge, by all doctors. The home visits should always be similarly regarded.

The value of the doctor's visit therefore varies greatly. It may be a loss to him of only so much time or it may be much in money that may be made or much in broken rest and imperiled health. It may be the saving of a life by a timely remedy judiciously applied, the comfort of the patient promoted, or a favorable turn in the patient's disease toward health, through the doctor's delay and sacrifice at the bedside, to watch and skilfully minister to the patient, while patients wait for his coming in his office or leave it and go or send elsewhere for medical service.

Sufferance and sacrifice are "the badge of all our tribe" and will be so till the end of time, but the recipients of our benefactions and our sacrifices or self-denials and our work should understand, through our fee bill, that visits are not all alike in value, that they represent varying degrees of time and expense to us and of labor, skill and experience to the patient.

C. H. HUGHES, M.D.

Colorado and Quarantine Against Consumptives.

To the Editor:—In THE JOURNAL for May 12, page 1156, Dr. Joseph Matteson, of Chicago, in his article entitled "Notification and State Supervision of the Tuberculous," makes the following statement: "It is rumored that the State Board of Health (of Colorado) had under consideration the advisability of quarantine against more consumptives."

Inasmuch as Dr. Matteson has made this public statement, I deem it my duty, as Secretary of the State Board of Health of Colorado, to request that you make equally public my statement that no such measure has ever been seriously considered by the Colorado State Board of Health. You will see by reference to Circular No. 20 of the State Board of Health, which was issued in February of this year, that instead of considering a quarantine the statement is made that "There is no need to talk of quarantining against consumption. Such a course is both unnecessary and impracticable. Doubtless, many persons with advanced tuberculosis should not be sent here, but for those who can not be benefited by coming, Colorado should have nothing but a warm welcome."

Yours truly, G. E. TYLER, Secretary.

Alcohol in the Tropics.

FORT RILEY, KAN., May 26, 1900.

To the Editor:—In your editorial in THE JOURNAL, May 19, you mention my article in the *Philadelphia Medical Journal* of April 7, in which I advocated the moderate use of alcohol to combat the exhaustion due to the heat and moisture, and warn against the serious effects of immoderate and bar-room drinking. You mention a volunteer surgeon who has somewhat similar views, i. e., "the use of liquor in any form in the tropics is unnecessary except it be the red wine issued by the Spanish Government to their troops." It is difficult to understand why you can say that these views are directly opposite. You also say: "Judging from the condition and efficiency of the Spanish troops this (red wine) would not seem to have helped them much." It seems to me that it may have helped them very much; for in spite of reduced rations for many weeks, they were so efficient that 500 of them at El Caney successfully fought about 6000 regulars nearly all day long, and a mere handful whipped General Duffield's brigade of gallant Michigan men. I find that soldiers who have faced the Spanish do not hold your opinion of inefficiency.

You say that the burden of proof is on those who are opposed to generally received opinions. On the contrary, in modern life the burden of proof is on those who still adhere to the old dogmas of the pre-scientific age of religion and medicine. This is just what makes the believers in theological and medical dogmas so hysterical—they can not prove their ridiculous assertions, about "load on the liver," "overworked kidneys," "spring medicine" or "predestination and free-will."

Very truly yours,
CHAS. E. WOODRUFF, M.D.,
Captain and Asst.-Surgeon U. S. Army.

[We suggest to our correspondent that he read the editorial again. ED.]

Association News.

Order of Business.—The following is the order of business of the general sessions of the AMERICAN MEDICAL ASSOCIATION, at the Atlantic City meeting. The general sessions will be held in the Marine Hall, Young's Pier.

FIRST DAY, TUESDAY, JUNE 5—10:30.

Call to Order—By the President, W. W. KEEN, Philadelphia, Pa.

Opening Prayer—By REV. FREDERICK J. STANLEY.

Addresses of Welcome—By HIS EXCELLENCY, FOSTER M. VOORHEES, Governor of New Jersey, and HON. F. P. STOY, Mayor of Atlantic City.

Report of the Committee of Arrangements, by the Chairman, PHILIP MARVEL.

Report of General Business Committee.

Address of the President of the AMERICAN MEDICAL ASSOCIATION, W. W. KEEN, Philadelphia, Pa.

Report of the Treasurer.

Report of the Secretary.

Report of the Committee on Department of Public Health, U. O. B. WINGATE, Milwaukee, Wis.

Report of the Committee on National Legislation, H. L. E. JOHNSON, Washington, D. C.

Report of Special Committee on Revision of Constitution and By-Laws, E. ELIOT HARRIS, Chairman.

Proposed Amendments to the Constitution.

Miscellaneous Business.

Special Announcements.

Reception of Delegates.
Adjournment.

SECOND DAY, WEDNESDAY, JUNE 6—10:30.

Call to Order.
Reading of Minutes.
Report of General Business Committee.
Announcements by Committee of Arrangements.
Oration on Surgery, W. L. RODMAN, Philadelphia, Pa.
Oration on State Medicine, VICTOR C. VAUGHAN, Ann Arbor, Mich.
Report of Board of Trustees.
Report of the Committee on AMERICAN MEDICAL ASSOCIATION MEDAL, GEO. M. GOULD, Philadelphia, Pa.
Report of Committee on Senn Medal, W. L. RODMAN, Philadelphia, Pa.
Report of the Committee on the Reorganization of the Army and Navy Medical Corps, THOMAS H. FENTON, Philadelphia, Pa.
Report on the Committee on the Rush Monument Fund, JAS. C. WILSON, Philadelphia, Pa.
Report of Special Committees.
Miscellaneous Business.
Adjournment.

THIRD DAY, THURSDAY, JUNE 7—10.

Call to Order.
Reading of Minutes.
Report of General Business Committee.
Announcements by Committee of Arrangements.
Oration on Medicine, JOHN A. WITHERSPOON, Nashville, Tenn.
Report of Nominating Committee.
Report of Special Committees.
Miscellaneous Business.
Adjournment.

FOURTH DAY, FRIDAY, JUNE 8—10.

Call to Order.
Reading of Minutes.
Report of General Business Committee.
Announcements by Committee of Arrangements.
Appointment of Delegates to Other Societies.
Unfinished Business.
Introduction of President-elect.
Adjournment.

Special Transportation Notice.—The Committee on Transportation desires to call especial attention to the paragraph in THE JOURNAL of May 9, page 1277, regarding extension of time limits, etc., and begs to say it is liable to be misleading, inasmuch as the reduced fare return tickets must be secured at Atlantic City and not at any other point. Having secured a return ticket at Atlantic City, the holder may arrange to stop over at Philadelphia, Baltimore or Washington, for example, and make side trips during the time his return ticket is deposited at such stop-over point. Full information in this respect can be secured from representatives of the lines interested. Tickets should be purchased direct to Atlantic City, the purchaser stating that he is attending the medical meeting at that point, securing at the same time a certificate from the local ticket agent, which must be presented to Dr. W. Blair Stewart, at Atlantic City, on June 6, 7 or 8, for his countersign, and the stamp of the detailed railroad agent. The certificate so stamped must then be presented within the time limit, at the railroad ticket office in Atlantic City, for the purchase of the return ticket, which will be sold to the bearer on the payment of one-third the regular full fare to the starting-point of the initial ticket. Tickets of this character are usually sold for continuous passage returning without stop-over privileges. Under date of May 23, the trunk lines have granted stop-over privileges in their territory not to exceed the time limit of the ticket, June 23, providing the ticket so purchased be deposited with the representative of the road selling the initial ticket, and securing the stop-over privilege. Tickets will be sold direct to Atlantic City, over the bridge route, by all Pennsylvania lines and connections, including New England territory, and by the Big Four out of St. Louis, via Cincinnati, over the C. & O. Route, and from the South and Southeast by the Southern or Atlantic coast lines. H. L. E. JOHNSON, M.D., Chairman.

Societies in Affiliation.—The following societies are in affiliation with the AMERICAN MEDICAL ASSOCIATION, in addition to those published in THE JOURNAL of April 14.

KENTUCKY: Louisville Clinical Society.

MARYLAND: Baltimore County Medical Society.

MISSOURI: Southeast Missouri District Medical Society.

NEW YORK: Erie County Medical Association.

TENNESSEE: Bradley County Medical Society; Chattanooga Medical Society; Dyer County Medical Society; Gibson County Medical Society; Johnson City Medical Society; Knox County Medical Society; Madison County Medical Society; Marshall County Medical Society; Middle Tennessee Medical Society; Montgomery County Medical Society; Nashville Academy of Medicine; Rutherford County Medical Society; Sumner County Medical Society; Tipton County Medical Society; West Tennessee Medical and Surgical Association.

TEXAS: Colorado County Medical Society; Corsicana District Medical Association; East Texas Medico-Chirurgical Society; Kaufman County Medical Society, Panhandle Medical Association; Practitioners' Society of Dallas.

Deaths and Obituaries.

ELMER W. WOODRUFF, M.D., was born in Reynoldsburg, Ohio, July, 23, 1863, and died in Columbus, Thursday, May 24. He received an academic education, and graduated from Starling Medical College in 1891, then practicing as a partner of his preceptor Dr. J. T. Mills, in Jersey, Licking County, Ohio, for four years. In 1895 he took a post-graduate course in the New York Post-Graduate School, locating in Columbus in September of that year, where he practiced until the time of his death. He was a member of the Columbus Academy of Medicine, Ohio State Medical Society, Mississippi Valley Association, and AMERICAN MEDICAL ASSOCIATION, the latter of which he served last year, in a most efficient manner, as assistant secretary. As a man he was above reproach, a citizen of unusual worth, a physician of rare quality; one whose sense of honor and high ideal in the medical profession is worthy the emulation of all; a man, whom to know, meant to trust, to respect, and to love. The loss to the community is great, the loss to the medical profession one that will be keenly felt. His was a life not well to be spared. Sacrificed by the all too faithful performance of his duty to patients afflicted with that dread disease which proved his undoing—pneumonia—his was a death which had it occurred in the battle of bullets instead of the battle of life civic, would have crowned him hero.

CHAS. H. VOORHEES, M.D., died at his home in New Brunswick, N. J., May 13, aged 76 years. He was graduated from Jefferson Medical College in 1850, and practiced medicine in Spotswood and Plainfield before locating in New Brunswick. During the Civil War he was a medical officer and saw service under Generals McClellan, Grant, Butler and Hooker. He was for many years a member of the staff of the John Wells Memorial Hospital. He was prominent in county and state medical societies and a member of the Ninth International Medical Congress, which met at Washington in September, 1887, and was elected vice-president of the section on military and naval surgery.

FESSENDEN NOTT OTIS, M.D., died in New Orleans, La., May 24, aged 75 years. He was born in Ballston, N. Y.; was graduated from Union College, New York, and finally in 1852 received his diploma from the now extinct New York Medical College. From 1853 till 1860 he was a surgeon on the United States Mail, and subsequently superintending surgeon of the Pacific Mail, Steamship Company. Besides, also, being a surgeon of police, he filled many other responsible positions in hospitals and dispensaries. In 1871 he became a lecturer in the College of Physicians and Surgeons, New York, and in 1874 identified himself in that institution with the chair of genito-urinary diseases.

JOHN SCUDDER, M.D., D.D., died in his 65th year, at Kodai Kanal, India, May 23. He was for 39 years a missionary of the Reformed (Dutch) Church in America, in connection with its Arcot mission, and had become an authority on the people of India. Like his ancestor, an Indian missionary of the same name, who was born in Freehold, N. J., Sept. 3, 1793, and died at the Cape of Good Hope, Jan. 13, 1835, he believed in pros-

elyting by ministrations to the sick. He leaves a wife, a son and a daughter—Dr. Ida Scudder, recently a visitor to this country, who has charge of the mission's hospital work.

GRANVILLE KNIGHT, M.D., Malden, Mass., died recently, after an illness of two years. He was born in Limerick Me., in 1836, and in 1850 went to Springfield to study medicine, and in 1861 he received his degree from the medical department of Vermont University, Burlington. He began the practice of his profession at Enfield Mass., but in 1867 moved to Springfield, where he remained until 1888, when he went to Malden.

F. B. MUSSEY, M.D., Cincinnati, Ohio, died May 12, aged 71 years. He was born in Hanover, N. H., and was graduated from Dartmouth College in 1840, and from the Ohio Medical College in 1844. During the Civil War he was a surgeon of the 33d Ohio Vol. Inf.

JOHN MACDONALD, M.D., New York City, died in St. Agnes Hospital, Philadelphia, May 21. He had been in the service of the Red Star Line for a long time and was surgeon of the Steamship *Waesland* for four years.

Miscellany.

Commissions to Acting Assistant Surgeons.—In the House of Representatives, May 15, Mr. Howell introduced the following bill (H. R. 11587), which was referred to the committee on military affairs and ordered to be printed: Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all acting assistant-surgeons of the United States Army who served as medical officers, agreeably to Army Regulations, either in the Civil War, the various Indian wars, the Spanish-American War, and the Philippine rebellion, and whose services were honorably terminated after one year's service, and those acting assistant-surgeons of the army who are still serving as medical officers, after one year's service, be issued commissions by the Secretary of War as acting assistant-surgeons of the United States Army in a similar manner that the commissions were issued to the acting assistant-surgeons of the United States Navy, the date of their commissions to be the date of their entry into the service of the United States as medical officers and the date when their services as medical officers were or will be honorably terminated to be the date of their discharge from the service of the United States; but any acting assistant-surgeon who has served honorably for a period of less than one year shall be issued a warrant showing the time for which he served and when such service was rendered; *Provided*, That no back pay or allowance be made to any such acting assistant-surgeon by virtue of this act.

Protest Against Antivivisection Bill.—Senator Gallinger, of New Hampshire, the advocate of antivivisection in the United States Senate, has been interviewed by a correspondent of the Baltimore *Sun*, and, according to the published report, expressed the views given in the following letter by Dr. W. W. Keen. One or two of the statements appear to be the reporter's natural inferences from Senator Gallinger's remarks, but the others are quoted as his own words. Dr. Keen's reply is a full and satisfactory reply to the Senator's libelous utterances, and should outweigh them, even with lay readers. The profession owes itself a duty to everywhere personally enlighten the laity, publicly and privately, in regard to these misrepresentations.

To the Editors:—In *The Sun* of April 16, under the title "Scalpel of Death," is an interview with Senator Gallinger, signed by your Washington correspondent, "F. A. R.," the statements of which I should not ordinarily feel called upon to notice. But inasmuch as they are made by a Senator of the United States and the sponsor for two bills on vivisection now before the Senate I deem it a duty to correct the erroneous impression which would be produced by the article were it passed over in silence.

Senator Gallinger has not been a practitioner of medicine for a number of years. I am sure that were he familiar with the progress of medicine and especially of surgery, within the last twenty years he would not have stated that "the belief was expressed by competent authority (?) that little real benefit had come from all the mass of the more horrible experiments."

Two statements, however, in the interview are so entirely wrong that I wish especially to call attention to them. Senator Gallinger says that American physicians should not "object to the inspection and regulation which the accomplished and able faculty of England accept without question or remonstrance." As a matter of fact, almost the entire profession of Great Britain have protested and remonstrated against their existing act. At the recent hearing on the antivivisection bill before the committee, of which Senator Gallinger himself was chairman, Professor Welch, of Baltimore, presented letters from Lord Lister, Sir Michael Foster, M.P., Sir T. Lauder Brunton and Sir T. Grainger Stewart, four of the leading medical men in Great Britain, representing the surgeons, physiologists and physicians, who showed how obstructive to progress the British law is and how deleterious such a law would be if enacted in this country.

The other statement by Senator Gallinger however, is still more indefensible; namely, "Not only in foreign countries, but in the United States, human vivisection has been practiced to a considerable extent; children and women in charity hospitals being inoculated with loathsome diseases for the sole purpose of watching them suffer and die." The only evidence as to human vivisection which was alluded to at the hearing was a pamphlet published by the miscalled "American Humane Society," dealing (in many cases with singular inexactness) with all the instances which their dragnet has been able to cull from the medical literature of the world. Instead of human vivisection being practiced "to a considerable extent," that pamphlet could give only two instances of anything resembling experiments on human beings in this country—one in Massachusetts and one in Maryland. The first was a series of experiments on puncture of the spinal cord; the other on the use of thyroid extract. Even these in my opinion were reprehensible. The others mentioned in the pamphlet alluded to were expressly condemned by Dr. Osler, myself and others at the time of the hearing. Not a single instance of the "inoculation of children or women with loathsome diseases" in the United States was adduced. The whole impression of the interview upon the public is that human vivisection and the inoculation of loathsome diseases is not uncommon in the United States. How far this is from the real truth I have stated.

It is strange that Senator Gallinger has introduced a bill for the "regulation of scientific experiments on human beings in the District of Columbia." Regulation implies certainly approval of such experiments under stated conditions, as is indicated throughout the bill. The medical profession as such utterly repudiates any such experiments on human beings, which Senator Gallinger seems to approve. Moreover, it is difficult to conceive of one's regulating a thing which does not exist. In the District of Columbia not a single instance of human vivisection has occurred, nor do I believe any ever will occur. The whole object of the introduction of the bill is evidently for the moral effect which it would produce in making the community believe that there is in existence a practice which needed to be regulated and indirectly to help the antivivisectionists in their cruel campaign against humanity.

I regret very much that Senator Gallinger has made an attack upon the noble profession to which we both belong. To say that "there is an ambition on the part of many operators to make new discoveries with little regard to the percentage of fatalities under the knife," that "no chance is too desperate for the modern surgeon to take," that "conscience has very little to do with the matter as a general thing" and that patients who enter hospitals should "leave hope behind" are slanders upon the profession, which I most indignantly deny. I know the surgeons of this country well, and a more conscientious body of men I do not know anywhere. They are honest in the statement of their results; they do not hesitate to acknowledge their mistakes, and they can face their patients here and hereafter with as clean a conscience as any set of men in the country. Senator Gallinger must have been singularly unfortunate in his relations with medical men to have formed so low an opinion of their moral character. Yours very truly,

W. W. KEEN,
President American Medical Association.

Sanitation in Porto Rico.—General Orders, No. 80, Department of Porto Rico, April 12, 1900, is devoted to sanitary matters. A nuisance is defined as any object or condition which is prejudicial to public health. Illustrations are cited: Dead animals in streets or yards, slaughter-house offal or other decomposing matter, an infected house, overflowing and leaking privies and water-closets, manure pits, filthy or insecure tenement houses, filthy markets, groceries, dairies, cellars, yards, alleys or streets, defective drains, filthy stables, foul wells used by the public, open sewers in which the water stands, and ponds or pools of stagnant water. Soap making, bone boiling and some other industries may be designated offensive, but they are not necessarily prejudicial to public health. The order prescribes the method of making complaint of the existence of a nuisance and the action to be taken thereon. Paragraphs 8 to 12 are intended for the regulation of water-closets, privies, sinks and cess-pools. Thus a privy vault must be constructed for every building which is situated on an unsewered street, and each vault must be not less than four feet in diameter and ten feet deep in the clear, lined and floored with a wall of hard brick nine inches in thickness, laid in cement mortar and proved to be water-tight. Plans of proposed sewerage systems must be approved by the Superior Board of Health before construction will be authorized by the governor. Several of the paragraphs relate to street cleaning, for which local boards must make proper provision. Streets must be swept and cleaned three times a week. It is forbidden to throw filth, garbage, dead animals, or solid or liquid waste of any kind into the streets. These must be placed in boxes or other receptacles, which will be emptied by the public scavengers. Each owner, or agent, is held responsible for any violation of these requirements in front of his property. District courts have jurisdiction in cases arising under this order.

Outcome of Suit Against Physician.—Dr. T. Gillebert, of

Laerne, Belgium, was consulted several times at his office in 1892 by a former patient, who complained of anemia, concealing her pregnancy, and paying for each consultation at the time. A few months later she sued him for having taken advantage of her during a syncope and rendered her pregnant. The local tribunal acquitted him at once of the charge, but the higher court reversed this decision, without summoning a single witness, and condemned the physician to three years in prison. Since his release he has devoted himself to the task of securing a revocation of the decree, and without money or influence he has at least succeeded in obtaining a formal revocation of the decre of the higher court and his complete rehabilitation. The *Gaz. Méd. Belge* calls on the profession at large to imagine the sufferings of this innocent confrère during these eight years, and to congratulate him on his successful struggle for justice.

An Old Practitioner.—The oldest practitioner of medicine in the United States is claimed by the N. Y. *Commercial Advertiser* to be Dr. John P. Wood, of Coffeyville, Kan. He is in his ninety-ninth year, and still devotes a large part of each day to his profession. Seventy-six years ago he began his duties in Georgetown, Ky., and subsequently helped to lay out the city of Lawrence, Kan. As United States Commissioner he was twice called on to decide charges against John Brown, whom he discharged in both cases, believing him to be insane.

Queries and Minor Notes.

MEDICAL BENEVOLENCES.

EAU CLAIRE, WIS., May 23, 1900.

To the Editor:—Can you send me the bibliography of medical benevolences? The matter is often referred to in THE JOURNAL, but no bibliography has appeared since my subscription began. I and the relation of city physicians to charity organizations. Very respectfully yours, J. M.

ANSWER:—The bibliography of medical charities is too extensive for us to be able to furnish it even in small part. As regards the especially refer to the formation, use and abuse of free dispensaries use and abuse of free dispensaries, the literature is rapidly increasing. A rather noteworthy article appeared in the May number of the *Brooklyn Medical Journal*, on this subject, and there is hardly a month goes by that something is not written on it. A popular exposition of the subject was made by Dr. George F. Shrady, in the *Forum*, in 1897. A city physician as an official rarely has to do with private dispensaries or with any medical charities other than some of the public ones.

PRETENDING OPTICIANS.

GEORGETOWN, OHIO, May 23, 1900.

To the Editor:—Will you inform me as to the law concerning the "Pretending Opticians" that are traveling over the country trying to refract and treat defective sight and errors in refractive power? These are ordinary laymen fitted out with a trial case of lenses. Should there be a law to prevent, to whom should one make complaint? Yours truly, H. P. S.

ANSWER:—The status of these unqualified opticians varies according to the state; unless the law is explicit they may find a way of escaping its provisions. In Ohio, however, the law seems to us sufficiently strict to cover these cases, as it mentions as coming under its provisions any one who shall "prescribe or recommend for fee for like use any drug, medicine, appliance, application, operation or treatment of whatever nature for the cure or relief of any wound, fracture, bodily injury, infirmity or disease." The secretary of the State Board of Medical Registration is charged with the execution of the law, and should be communicated with in regard to the matter, for further information.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 18 to 24, 1900, inclusive:

Henry P. Birmingham, major and surgeon, U. S. A., member of a retiring board convened at Manila, P. I.

Robert E. Caldwell, acting asst.-surgeon, from the transport *Rosecrans* to duty in the Department of California.

James Carroll, acting asst.-surgeon, from Washington, D. C., to New York City, and thence to Quemados, Cuba, on special business pertaining to the medical department.

Thomas E. Evins, major and surgeon, 49th Inf. Vols., discharged from service upon tender of his unconditional resignation, to take effect May 24, 1900.

Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., member of a promotion board convened at Fort Monroe, Va.

James H. Halloway, acting asst.-surgeon, relieved from duty on the transport *Sheridan* to proceed to Seattle, Wash., for duty on the transport *Rosecrans*.

Herbert I. Harris, acting asst.-surgeon, from Walker, Minn., to duty at Fort Snelling, Minn.

Philip F. Harvey, major and surgeon U. S. A., member of an examining board at San Francisco, Cal.

William P. Kendall, major and surgeon, Vols., member of a retiring board convened at Manila, P. I.

James M. Kennedy, captain and asst.-surgeon, U. S. A., relieved from duty on the examining board at San Francisco, Cal.

Fred S. Macy, acting asst.-surgeon, from Somerville, Mass., to San Francisco, Cal. for duty in the Department of California.

Edward B. Moseley, major and surgeon, U. S. A., member of a retiring board convened at Manila, P. I.

Robert M. O'Reilly, lieut.-col., deputy surgeon-general, U. S. A., member of a promotion board convened at Fort Monroe, Va.

Eduardo C. Poey, acting asst.-surgeon, member of an examining bard at Fort Riley, Kans.

Francis J. Pursell, acting asst.-surgeon, from Utica, N. Y., to duty in the Department of California.

Walter Reed, major and surgeon, U. S. A., from Washington, D.C., to New York City, and thence to Quemados, Cuba, on special business pertaining to the medical department.

William Roberts, acting asst.-surgeon, from Washington, D. C., to Tampa, Fla., and thence to Havana, Cuba, for duty in the division of Cuba.

Maxwell S. Simpson, acting asst.-surgeon, leave of absence extended.

W. R. Van Tuyl, acting asst.-surgeon, relieved from duty on examining board at Fort Riley Kans.

BOARD CONVENED.

On May 24, 1900, the following order was issued: By direction of the Secretary of War a board of medical officers is appointed to meet at Camp Columbia, Quemados, Cuba, for the purpose of pursuing scientific investigations with reference to the infectious diseases prevalent on the Island of Cuba. Detail for the board: Major Walter Reed, surgeon U. S. A.; Acting Asst.-Surgeon James Carroll, U.S.A.; Acting Asst.-Surgeon Aristides Agramonte, U.S.A.; Acting Asst.-Surgeon Jesse W. Lazear, U. S. A. The board will act under general instructions to be communicated to Major Reed by the surgeon-general of the army.

NAVY CHANGES.

Changes in the Medical Corps of the Navy for the week ended May 12, 1900.

Surgeon G. P. Lumsden, ordered to the *Kentucky* May 15, 1900.

Asst.-Surgeon G. F. Freeman, detached from the Naval Hospital, Washington, D. C., May 10, and ordered to the *Essex*

Asst.-Surgeon C. H. DeLancy, detached from the *Essex* when relieved, and ordered to the Naval Hospital, Washington, D.C.

P. A. Surgeon S. G. Evans, ordered to the *Kentucky* May 15, 1900.

P. A. Surgeon W. C. Braisted, detached from the *Detroit* when put out of commission and ordered home and to be ready for orders to sea.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending May 17, 1900.

Surgeon H. W. Austin, detailed as member of Board of Examiners convened to meet at New York City, May 23, 1900, for the examination of candidates for appointment as assistant-surgeon in the U. S. M. H. Service.

Surgeon G. W. Stoner, relieved from duty as member of Board of Examiners convened to meet at New York City, May 23, 1900, for the examination of candidates for appointment as assistant-surgeon in the U. S. M. H. Service.

Surgeon F. W. Mead, granted leave of absence for one day.

Acting Asst.-Surgeon R. E. L. Burford, granted leave of absence for seven days.

Acting Asst.-Surgeon L. P. Gibson, granted leave of absence for five days.

Acting Asst.-Surgeon G. A. Gregory, granted leave of absence for four days from May 11, 1900.

Acting Asst.-Surgeon J. A. Moncure, to proceed to the Brunswick, Ga., quarantine station, for temporary duty.

Acting Asst.-Surgeon W. J. O'Reilly, granted leave of absence for three days from May 22, 1900.

Acting Asst.-Surgeon J. G. Stanton granted leave of absence for twenty-two days from May 16, 1900.

BOARD CONVENED.

Board convened to meet at New York City, May 23, 1900, for the examination of candidates for appointment as assistant-surgeon, U. S. Marine-Hospital Service. Detail for the Board: Surgeon George Purviance, chairman; Surgeon G. W. Stoner, Surgeon G. T. Vaughan, recorder.

APPOINTMENTS.

Fiher, Albert W., appointed acting assistant-surgeon, U. S. M.-H.S., for duty at Toledo, Ohio, from May 1, 1900.

Schurrer, L. T., appointed acting asst.-surgeon, U.S.M.-H.S., for duty at Lexington, Mich., from May 14, 1900.

RESIGNATIONS.

Acting Asst.-Surgeon W. H. Fisher, resigned to take effect April 30 1900.

CASUALTY.

Asst.-Surgeon S. R. Tabb, died at Savannah, Ga., April 30, 1900.

CHANGE OF ADDRESS.

Dr. G. N. Bennett, from Kingsville to Blue Springs, Mo.

Dr. J. F. Barbrick, from Atlanta, Ga., to 52 Waverly St., Everett, Mass.

Dr. A. Breathwit, from Ogemaw to Kingsland, Ark.

Dr. A. W. Chase, from 98 Columbia St. E., Detroit, to 103 Church St., Adrian, Mich.

Dr. A. L. Chapman, from 1711 Canal St., New Orleans, to Lake End., La.

Dr. G. S. Dowell, from Chillicothe to Braymer, Mo.

Dr. J. U. Fauster, from Paulding to Archbald, Ohio.

Dr. G. A. Flippin, from Chicago, Ill., to Dermott, Ark.

Dr. C. O. Goulding, from 6202 Penn Ave. to 239 Shady Ave., Pittsburg, Pa.

Dr. L. S. Greene, from Louisville, Ky., to Burnt Mills, Miss.

Dr. B. Getzlaff, from Grand Haven to 126 Division St., Benton Harbor, Mich.

Dr. O. M. Hayward, from Nashville to Graysville, Tenn.

Dr. R. D. Long, from Chicago, Ill., to Lorenzo Marquez, Pretoria, S. A.
Dr. F. M. Laubach, from Wilkes Barre to Weaversville, Pa.
Dr. W. D. Lockwood, from South St. Joseph to Sta. D., St. Joseph, Mo.
Dr. R. E. Lowe, from Kansas City, Mo., to Independence, Kan.
Dr. W. J. McRoberts, from 417 S. Garrison St., St. Louis, to Jefferson City, Mo.
Dr. R. E. Mason, from 450 Walker St. to Lamar Hospital, Augusta, Ga.
Dr. J. L. McCarthy, from 1024 So. 10th St., Omaha, to Gretna, Neb.
Dr. H. C. Miner, from 630 to 833 Kansas Ave., Topeka, Kan.
Dr. H. M. Morrow, from 42 Laflin St. to 169 Ashland Boul., Chicago, Ill.
Dr. S. L. McElroy, from Norcross to Kirkland, Ga.
Dr. J. T. Nagle, from 47 E. 21st St. to 17 Park Row, New York, N. Y.
Dr. H. G. Norton, from 1609 4th St., Minneapolis to St. Luke's Hospital, St. Paul, Minn.
Dr. W. P. Reaves, from Sewanee Med. Col. Whig, to Sewanee, Tenn.
Dr. A. Rud, from Park Ave and Ohio St. to 136 N. Central Ave., Austin Ill.
Dr. A. J. Richter, from 6250 Halsted St., Chicago, Ill., to Bluthenthal Hotel, Pine Bluff, Ark.
Dr. R. L. Shea, from New York City to Westerly, R. I.
Dr. G. O. Switzer, from Pentwater to Greenland, Mich.
Dr. J. Spaulding, from Clinton to Decatur, Ill.
Dr. H. J. Tillotson, from St. Louis to 701 Main St., Kansas City, Mo.
Dr. H. E. Thomason, from Westville to Grove, I. T.
Dr. J. Vermenlen, from Beaver Dam to Fremont, Mich.
Dr. J. L. Williamson, from Lowell, Ark., to Lacasa, Texas.
Dr. DeForest Willard, from 1601 Walnut St. to 1818 Chestnut St., Philadelphia, Pa.
Dr. J. Wallace, from Milton, N. H., to 2773 Washington St., Roxbury, Mass.
Dr. D. H. Williams, from 3301 to 3149 Forest Ave., Chicago, Ill.
Dr. C. H. Wheaton, from 95 Evanston Ave. to 42 E. Madison St., Chicago, Ill.
Dr. W. M. Young, from Itasca to Dallas, Texas.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, May 17.

1.—*Ideal Ration for an Army in the Tropics. (*Continued.*) E. L. Munson.
2.—*Study of the Nature and Significance of Symptoms in Disorders of the Stomach. Henry F. Hewes.
3.—*Case of Pernicious Vomiting of Pregnancy. E. L. Twombly.
4.— Bicornate Uterus, with Twin Pregnancy; Abortion from One Horn. Charles H. Winn.
5.— Case of Pernicious Vomiting of Pregnancy. H. S. Knight.
6.—*Question of Supernumerary Fallopian Tubes; With Specimens of Fallopian Tubes with Supernumerary Ostia. Agnes C. Vietor.

Medical Record (N. Y.), May 19.

7.—*When Shall we Operate for Appendicitis? Joseph Wiener, Jr.
8.—*1. On a Peculiar Variety of Pathogenic Streptococci. 2. On a Peculiar Property Possessed by (at least some of) the Pathogenic Bacteria: Preliminary Communication. E. Libman.

New York Medical Journal, May 19.

9.—*Study of Blood in Cancer of Stomach. Thomas McCrae.
10.— Cystitis. (*Concluded.*) Henry H. Morton.
11.—*Estivo-Autumnal Fever in New Orleans. (*Continued.*) H. A. Veazie.
12.—*Genesis of Antitoxins. Justin D. Lisle.
13.—*Physical Training in School and Home. (*Continued.*) Henry S. Pettit.
14.— Trachoma. Norburne B. Jenkins.

Philadelphia Medical Journal, May 19.

15.—*Common Colds: Their Cause, Prevention and Treatment. D. H. Bergey.
16.—*Intestinal Indigestion and its Consequences. Wm. Henry Porter.
17.—*Gastric Analysis. Albert Philip Francin.
18.—*Case of Acute Gonorrhea by Mercurol Irrigations. Ferd. C. Valentine.
19.—*Ruptu.e of Plantaris Muscle. John H. Gibbon.
20.— Case of Chronic Pneumonia. Malcolm S. Councill.

Medical News (N. Y.), May 19.

21.— Status of Gynecology in 1876 and 1900. Alex. J. C. Skene.
22.—*The Pharmacopeia of 1900. Horatio C. Wood.
23.—*Treatment of Suppurative Otitis Media in Young Children. George L. Richards.
24.— Fibroid Tumor of Uterus; Enteroptosis; Retroversion; Ruptured Perineum-Operations; Recovery. Matthew D. Mann.

Cincinnati Lancet-Clinic, May 19.

25.— Valedictory Address before the Miami Medical College. Joseph Eichberg.
26.—*Ophthalmic Memoranda. David DeBeck.

Medical Review (St. Louis, Mo.), May 19.

27.— Chairman's Address before the Southern Section of American Laryngological, Rhinological and Otological Society. J. A. Stucky.
28.—*Epidemic Cerebrospinal Meningitis; A Clinical and Bacteriologic Study of Thirty-four Cases. R. B. H. Gradwohl.

Archives of Pediatrics (N. Y.), May.

29.—*Ambulatory and Hospital Management of Gastrointestinal Derangements of Infancy in Summer Months among the Poor of Large Cities. Henry Koplik.
30.—*Care of Premature Babies in Incubators. James D. Voorhees.
31.— Tuberculosis of Female Genital Tract in Children. Martha Wollstein.
32.— Application of Rational Surgical Technique to Removal of Foreskin. Leonard W. Bacon, Jr.

Alienist and Neurologist (St. Louis, Mo.), April.

33.—*Analysis of the Sexual Impulse. Havelock Ellis.
34.— Circumscribed Median Nerve Digital Neuritis Sequent to La Grippe. C. H. Hughes.
35.— Outline of Psychiatry in Clinical Lecture. (*Concluded.*) C. Wernicke.
36.— Diagnosis of Raynaud's Disease. Adolf Calmann.
37.— Research in Comparative Cytology of Nervous System of Vertebrates. Guiseppe Levi.

Bulletin of the Johns Hopkins Hospital (Baltimore, Md.), April.

38.— Unusual Method of Performing Hysteromyomectomy. Otto G. Ramsay.
39.— Squamous-Celled Carcinomatous Degeneration of Ovarian Dermoid Cyst; also Adenocarcinoma of Ovary, Associated with Ovarian Dermoid Cyst. Lindsay Peters.
40.— Pulmonary Tuberculosis, with Diffuse Pneumonic Consolidation, in a Lion. W. G. MacCallum and A. W. Clement.
41.— Arsenical Pigmentation and Keratosis. Louis P. Hamburger.
42.— Uncontaminated Urine. Howard A. Kelly.
43.— Note on Series of New Vesical Specula. Howard A. Kelly.

Archives of Otology (N. Y.), February.

44.—*Series of Cases of Suppurative Disease of Temporal Bone, with Comments. Swan M. Burnett.
45.— Excessive Hemorrhage, Following the Removal of a Myxofibroma from Ear. Clarence R. Dufour.
46.— Facial Paralysis as Complication of Acute Otitis Media. Wm. R. Murray.
47.—*Rinné and Gellé Tests. Gustav Brühl.
48.— Method for Functional Examination of Diseased Ears. Fr. Bezold.
49.— Case of Cerebral Abscess Following Purulent Inflammation of Middle Ear; Operation; Evacuation of Abscess; Death. Charles H. May.
50.— Fatal Otitic Abscess in Left Temporal Lobe of Brain Causing Word-Blindness. Operation. Autopsy. Herman Knapp.

Laryngoscope (St. Louis, Mo.), May.

51.—*Etiology of Chronic Atrophic Rhinitis. Francke H. Bosworth.
52.—*Some Recent Contributions to Study of Etiology and Pathology of Atrophic Rhinitis. Jonathan Wright.
53.—*Importance of Distinguishing Functional Collapse of the Nasal Tissues from Atrophic Rhinitis. Clarence C. Rice.
54.—*Hygienic and General Treatment of Atrophic Rhinitis. Thomas R. French.
55.—*Mechanical Treatment of Atrophic Rhinitis. B. Bryson Delavan.
56.—*Atrophic Rhinitis; Its Treatment by Local Medication. Chas. H. Knight.
57.— Report of Case of Hysterical Dyspnea. F. E. Waxham.
58.— Sigmoid Sinus Thrombosis. James F. M'Kernon.

Therapeutic Gazette (Detroit, Mich.), April 15.

59.—*Indications for the Use of Alcoholic Stimulants in Typhoid Fever. J. H. Musser.
60.—*Intestinal Antisepsis in Typhoid Fever. J. M. Anders.
61.—*Diet in Typhoid Fever. Frederick A. Packard.
62.—*Concerning the Substitutes for Enucleation of Eyes and Preparation of Stump after Complete Enucleation, with Description of Some of the Methods which have been Advocated and Practiced. G. E. de Schweinitz.
63.— Case of Inoperable Cancer of Vagina Treated with Local Applications of Methyl Blue. H. R. Coston.
64.— Antitoxic and Surgical Treatment of Diphtheritic Laryngitis. Joseph Mullen.

Doctor's Magazine (Chicago), April and May.

65.— Bubonic Plague. N. Kunitoma.
66.— Orlando, Florida, Winter Resort. James N. Butt.
67.— Scope of U. S. Pharmacopeia. George F. Butler.
68.— Arizona as Health Resort. A. W. Craig.
69.— Notes from My Journal. Wm. Rittenhouse.
70.— Ernest Platner: Philosopher and Physician. Frank W. Jay.
71.— Varieties, Symptoms, Diagnosis and Treatment of Neurasthenia. Rosalie M. Ladova.
72.— Doctor's Life in Mexico. Chas. E. Husk.
73.— Chronic Suppurative Osteomyelitis. T. A. Davis.

Archives of Ophthalmology (N. Y.), March.

74.— Report of Case of Orbital Cavernoma Removed by Kronlein's Method with Preservation of Eyeball. Arnold H. Knapp.
75.—*Iritis, Result of Dental Irritation. B. L. Millikin.
76.— Case of Contusion Injury of Eyeball, Followed by Fulminant Glaucoma: Recovery without Operation. H. L. Myers.
77.—*Contribution to Diagnosis, Symptomatology and Statistics of Congenital Color-Blindness. Wilibald A. Nagel.
78.— Glaucoma after Neuro-Retinitis Albuminurica. Contribution to Pathologic Anatomy of Glaucoma. Eugene Wehrli.
79.— 1. Extreme Deviation Upward and Outward of Right Eye, with Nystagmus of Left. 2. Transparent Floor of Ulcer on Large Leucoma of Cornea. V. L. Raia.
80.—*Palpebral Reaction of Pupil (Galassi). H. Gifford.

International Medical Magazine (N. Y.), April.

81.—*Intestinal Antisepsis in Typhoid Fever. James M. Anders.
82.—*Variety in Diet of Typhoid Fever. Andrew H. Smith.
83.—*Treatment of Typhoid Fever. Frank Billings.
84.— Illustrated Clinic in Dermatology. Wm. S. Gottheil.
85.— Treatment of Typhoid Fever. David F. Woods.

American Gynecological and Obstetrical Journal (N. Y.), May.

86.— Personal Reminiscences Associated with Progress of Gynecology. (*Continued.*) Thos. Addis Emmet.
87.— Removal of Bladder as Preliminary to or Co-Incidental with Hysterectomy for Cancer in Order to Extend the Possibilities of Surgery for Malignant Disease of Pelvis. Franklin H. Martin.
88.— Fetal Malformation: Symelus. A. McDiarmid.
89.— Intraperitoneal Hemorrhage Considered in Relation to Ectopic Gestation. J. Clarence Webster.
90.— Malformation of Uterus. Frank T. Andrews.

Medical Review of Reviews (N. Y.), April 25.

91.—*Soluble Products of Fungus Parasite of Human Cancer and of Nectria Ditissima (Parasite of Cancer of Trees); Physiologic and Therapeutic Action of Nectriannin. M. Bra and M. Mongour.

Cleveland Medical Gazette, May.

92.—*Some of the Causes of Pain in Feet. C. A. Hamann.
93.—*Report of Cases of Syphilis of the Viscera. Chas. F. Hoover.
94.—*Plea for Examination of Male Genitals in Obscure Cases. Ferd. C. Valentine.
95.— Case of Appendicitis in which Appendix was not Found at Time of Operation or at Post-mortem. Charles B. Parker.

Fort Wayne Medical Journal-Magazine, April.

96.— Diagnosis of Smallpox. Carl Proegler.

Canadian Journal of Medicine and Surgery (Toronto, Can.), May.

97.—*Disease in Korea. O. R. Avison.
98.— Doctor of the Future. Albert D. Watson.
99.— Clinical Notes on Euquinin. W. R. D. Blackwood.

St. Louis Medical and Surgical Journal, May.

100.—*On Ischemic Paralysis and Contractors of Muscles. Augustus C. Bernays.
101.— Pathology and Diagnosis of Exophthalmic Goiter. Emory Lanphear.
102.— Medical Treatment of Exophthalmic Goiter. Floyd Stewart.
103.— Treatment of Gonorrhea in Females. Eugene C. Underwood.
104.— Regarding Pre-Columbian Leprosy. Phil H. Polakowsky.

Maryland Medical Journal (Baltimore), May.

105.— Cystitis Caused by Bacillus Pyocyaneus. Thomas R. Brown.
106.— Study of "Christian Science." Harry T. Marshall.
107.— Some Interesting Cases of Mastoiditis. H. O. Reik.
108.— Case of Measles, Scarlet Fever, Diphtheria, Otitis Media, Mastoiditis, etc. Herbert Harlan.

American Medical Compend (Toledo, Ohio), May.

109.— Address before the Toledo University Club. B. Becker.
110.— Examination of Blood in Disease. M. H. Bowman.
111.— Microchemistry. Park L. Myers.
112.— Acute Anterior Poliomyelitis. H. E. Smead.

Yale Medical Journal (New Haven, Conn.), May.

113.— Abortion before the Fourth Month. William S. Stone.
114.—*Smallpox in Porto Rico. S. H. Wadhams.
115.—*Sprains. S. H. Huntington.

Memphis Medical Monthly, May.

116.— Heredity. D. E. Nelson.
117.—*Anatomy and Pathology of Rectal Valves. A. B. Cooke.
118.— Salient Points of Appendix Operations. R. E. Fort.
119.— Educating the Public in Care of Their Teeth. M. M. Haltom.
120.— Surgical Case. Battle Malone.

Virginia Medical Semi-Monthly (Richmond), April 27.

121.— True Function of State Medical Examining Board. Allard Memminger.
122.— Clinical Report of a Few Select Cases: 1. Gonorrheal Pneumonia; 2. Septic Lymphangitis of Thigh from Scratch on Foot; 3. Typhoid Toxemia in Malarial Fever; 4. Gunshot Wound of Abdomen; Recovery; with Remarks. John R. Hicks.
123.— Treatment of Constipation by Electricity. Francis B. Bishop.
124.—*Some Points of General Interest in Regard to Drug Addictions. C. C. Stockard.
125.— Pulmonary Tuberculosis: Its Prevention and Treatment. David R. Fly.
126.— Etiology and Diagnosis of Idiopathic Fevers. F. M. Brantly.
127.— Duty of Medical Profession and State to Christian Science Healers. P. R. Cortelyou.

AMERICAN.

1. **Army Ration in the Tropics.**—Munson continues his paper on the army ration, showing that in the tropics the needed amount of protein and nitrogen is less than that required in the more temperate climates. A vegetable diet is largely adopted by the tropical residents and it contains much less rich nitrogenous constituents than the vegetable foods indigenous to the temperate zone. It has been noticed that the resident whites in Java adapt their food so as to have a decided reduction of protein as well as fats, which are clearly not required for the support of animal heat to the same extent as in northern regions; an excess of nitrogenous foods is apt to overtax the liver, and it is evident that for the troops serving in the tropics these may be safely and advantageously reduced. It is preferably done at the expense of the meat component, which, besides protein, contains a considerable proportion of fat. It is not desirable to have a complete fall to the nitrogenous level of the tropical native, since the single nutrient standard for the military service must contain the elements necessary to repair the loss incident to great physical efforts. Therefore, the protein allowed for the soldier in active service must be somewhat greater, and it is probable that the daily allowance of nitrogen can not safely be reduced below 16 grams, represented by 100 grams of protein, even though this amount is in considerable excess of the normal for the corresponding native class of the tropics. (See also abstract in THE JOURNAL of May 26, ¶ 25, p. 1364.)

2. **Stomach Disorders.**—Hewes' reports the examination of a large number of cases of stomach disorders, and thinks that there are certain common symptoms which are present in practically all cases, including those in similar and opposite objective findings. This leads to the conclusion that all causes affecting the stomach will produce, as a part of the symptomatology of the function they bring about, certain common symptoms which are manifestations of the nature or habit of the stomach when disturbed, rather than manifestations of special reactions to special causes of disturbance. One of the most prominent of these symptoms is distress in the form of pain, nausea, burning sensations or a sense of weight or fulness, which may be the total symptomatology in many cases. Whether they are attended with hypoacidity or hyperacidity, the extent of this symptom-habit is somewhat hypothetic. In some we may assume that hyperesthesia exists, and in others it may be considered as the manifestation of the organ, working to perform its function under untoward conditions making a sort of stomach strain.

3. **Pernicious Vomiting of Pregnancy.**—Twombly reports a case of fatal vomiting of pregnancy, from which he draws the conclusion that the delay so generally advised is frequently extremely perilous. The indications for emptying the uterus are given by him as: 1, inability to retain any food taken by the mouth; 2, intolerance of rectal enemata; 3, more or less albuminuria; 4, progressive emaciation; 5, headache constant; 6, frequent and feeble pulse; 7, a certain apathy of the patient.

6. **Supernumerary Fallopian Tubes.**—The question of supernumerary Fallopian tubes is discussed by Vietor, who takes as her text a case of supernumerary ostia. She advances as a theory for the origin of these anomalies that they are the reversion to a former avian condition.

7. **Appendicitis.**—Wiener calls attention to the dangers of general peritonitis from appendicitis as shown by the statistics of the Mt. Sinai Hospital for the last five years, and notices cases that are instructive in regard to the management of the latter. He does not believe in any fixed rule as to operation, but thinks it is important that the removal of the appendix should be performed if pain continues after an acute attack. He summarizes as follows: 1. Not every case of appendicitis should be operated on. 2. After a first mild attack, regulate the diet and salines. 3. After a first severe attack remove the appendix. 4. After two or more mild attacks, operate. 5. In an acute attack: *a*. Do not give opium nor morphin. *b*. Operate during an attack—1, if a chill manifests itself; 2, if the pain is severe enough to require morphin; 3, if the pulse is very small, rapid or irregular; 4, if there is persistent vomiting; 5, if there is persistent rigidity of the abdominal wall; 6; if an abscess can be felt; 7, if the general condition makes it imperative; 8, if in doubt. He says that it is a mistake to think that every case of appendicitis comes under these headings, though a great majority will be found to do so; and if every patient was operated on early the mortality would be reduced. This can be also be done by exercising care and discrimination in deciding when to operate.

8. **Peculiar Variety of Pathogenic Streptococci.**—Libman describes a form of strepcococcus which differs from others in the fact that when grown on glucose-agar, the whole agar became whitened, although the growth was confined to the surface. The same happened with lactose-agar, but not with saccharose-agar. By growing the organism on the glucose-agar, to which some hydrocele fluid had been added, the medium became absolutely white. Anaerobically a similar result could be obtained with serum medium only. The whitening of the media seems to depend on the production of an acid —lactic or one closely allied—which precipitates the albumin of the media. The organism is pathogenic for mice, producing

gastro-enteric inflammation. While working on this organism, he tried to find out whether or not other bacteria would produce the same phenomena and to his surprise found that a large number of the pathogenic bacteria can precipitate albumin in the presence of glucose; that in a general way, the results seeem to depend on the amount of acid produced, as pneumococci, alone, among those tested, did not have this property. Many bacteria also precipitate egg-albumin, and most of them, serum-albumin in the presence of .1 per cent. of glucose —the amount present in the normal blood. The saprophytes thus far tested, not including the proteus group, do not seem to have this quality. The growth of most of the bacteria used in the experiments, including pneumococci, on a medium consisting of glucose-agar to which some serum had been added, was far in excess of these growths on any other. These facts are important in regard to infections, especially in diabetes.

9. **Cancer of the Stomach.**—Osler and McCrae have examined the condition of the blood in 62 or more cases of cancer of the stomach and found that a blood count below 1,000,000 red blood-corpuscles is strongly in favor of pernicious anemia. While nucleated red blood-corpuscles are present in all very severe anemias, megaloblasts rarely occur in cancer of the stomach. Neither an increase in the leucocytes nor special variations in the form appear to be of any moment in the diagnosis of this condition and the presence or absence of digestion leucocytes is too uncertain to be of much assistance.

11. **Estivo-Autumnal Fever.**—Veazie discusses the origin, symptomatology and diagnosis of this form of malaria, which he thinks is frequently confounded with yellow fever. Differences in the symptoms exist, but they are unreliable, and only give presumptive evidence when this form of malaria assumes malignant features. The principal differences are that pain in the limbs is confined more to the knees and calves of the legs, that the expression of the face is that of pain and dulness instead of excited and anxious, as in yellow fever, and that the pupils are normal instead of contracted. The tongue is usually covered with a yellowish coating, while in yellow fever it is sometimes not coated at all. In autumnal fever the liver and spleen are tender, there is loss of appetite, and the bowels are sometimes loose; all of which symptoms are unlikely to be seen in yellow fever. Black vomit is common to both and the only reliable and safe course to pursue in the diagnosis is to find the parasite and give a few doses of quinin; then if it is absorbed, the temperature will fall almost to normal and the patient feel well.

12. **Antitoxins.**—The origin of antitoxins is treated by Lisle, who rejects the theory that they are derived from toxins. This theory receives its final blow from Madsen's investigations; he found diphtheria antitoxin in a perfectly healthy horse which had never been inoculated. It must therefore be a product of the animal body, but how produced is a mystery.

13. **Physical Training in School and at Home.**—The importance of physical education is discussed by Pettit, who points out that the systematic training in the gymnasiums is adapted particularly to naturally weak, puny individuals, who are not able to enter into the games of their playmates. He describes a method of taking measurements, as a guide to treatment and a means of furnishing statistics as to the ideal man; he does not believe, however, in using it systematically, on account of the time it takes, and because the physical director can tell by observation where a person is lacking.

15. **Common Colds.**—From a study of the subject, Bergey believes that common colds are caused by infection of the mucous membrane of the upper respiratory tract by pathogenic bacteria, which in neglected cases may invade the system and lead to serious results; and that consequently these diseases should never be regarded as trivial. So far no specific bacteria have been isolated; the ordinary pus germs and those producing pneumonia are specially mentioned as probably the most common. The etiologic factors of these diseases are such as endanger the health of every person coming in contact with the sufferer, and these disorders should be regarded as infectious, even though they become chronic. Recognizing this fact, he thinks that it is important to prevent, as far as possible, the association of the well with those having colds, especially among children in public schools.

16. **Intestinal Indigestion.**—Porter describes the oxidation processes in the system, explaining the production of hemoglobin and lecithin in the physiologic economy. He also calls attention to the fact that the presence of certain kinds of bacterial life is probably essential to normal digestion and reports the experiments of Schottelius, in opposition to those of Nuttall and Thierfelder, as demonstrating this, but to determine what kinds are the essential ones would require a very extensive study. It is fortunate that Nature has allowed a wide margin of indulgence in the food products taken, because otherwise it would be impossible to secure anything like a **fair standard of health. The chief** causes of intestinal indigestion are of two kinds: 1, the presence of abnormal micro-organisms and putrefactive changes produced by their presence; 2, taking more food than can be properly managed and that of faulty composition. To this may be added, as secondary causes, the environments, exercise, mental state, nervous condition, climatic influence, etc. **Under ordinary circumstances,** however, the normal micro-organisms and the digestive secretions will naturally counteract the pathologic ones. A well-regulated mixed diet is one that contains a due proportion of all the essential elements of both the animal and vegetable kingdoms. No one of these, however, is perfectly adjusted: milk comes the nearest to being the universal food, but it has its defects as such. Vegetables require a large bulk to secure the absorption of a proper amount of proteid substances, and their advantage is in containing a high percentage of nucleo-albumin as compared with the animal foods. The liberal use of fruits may excite abnormal fermentation, as many of them are eaten before ripe, and in their raw state are often laden with micro-organisms, and in a state of partial decomposition. The meat diet is defective in the glucose compounds, but when used in its true sense, including all animal products, furnishes everything in the required proportion except the nucleo-albumin. A vegetable diet, when used accurately, excludes the use of any animal product, even in cooking, and this makes it almost impossible to get a properly proportioned combination. (See also abstract in THE JOURNAL of May 26, ¶ 6, p. 1362.)

17. **Gastric Analysis.**—Francin's paper gives the details of the methods of gastric analysis.

18. **Gonorrhea.**—Valentine reports a case treated by mercurol irrigation in which the gonococci disappeared definitely on the second day, and, after the fifth irrigation the discharge was reduced from a free yellow flow to a pinhead drop, by one irrigation of 5 per cent. mercurol. The urine became clear after the first irrigation, while the burning produced by the mercurol continued for three days after each irrigation, and occurred to a slight degree after several subsequent ones, and was associated in most instances with frequent imperious urination. He believes that we can not succeed in doing what quacks claim they can, cure a case in three or even eight days, but that this is an advance on previous methods.

19. **Rupture of the Plantaris Muscle.**—The case reported is that of a man who, while playing tennis, was suddenly seized with a pain in the calf of the left leg, followed by weakness, pain and great difficulty in walking. The case typically illustrates the symptoms of rupture of the plantaris muscle—sudden pain above the middle of the calf, where the muscle joins its tendon, inability to walk except with parts held stiff and toes everted, swelling, and greater pain and ecchymosis later. The treatment is immediate rest and moderate compression, with massage and an elastic bandage later; it is not necessary to put the leg up in a plaster dressing, unless some of the larger muscles are injured.

22. This paper has appeared elsewhere: See THE JOURNAL of May 19, title 14, p. 1248.

23. **Suppurative Otitis Media in Young Children.**—The frequency of suppuration of the middle ear in young children is noted by Richards, and his method of treating the condition detailed. If the suppuration has lasted for some time and the discharge is foul and the caries well marked, he syringes with warm, sterile water, or with a solution of 1 to 5000 bichlorid until all the debris is removed, when the canal is dried and the ear inspected. If there is much destruction of the tympanic membrane, he applies peroxid of hydrogen on a cotton pledget.

and after again drying, a saturated solution of boric acid in from 40 to 90 per cent. of alcohol—in young children seldom over 50 per cent. He next dusts the whole surface lightly with powdered boric acid, or some such drying powder, and then stops the ear with a narrow, small wick of iodoform, or other antiseptic gauze, taking care that it reaches the bottom of the canal. If the process is more acute and the perforation small, neither the peroxid of hydrogen, the boric-acid alcohol, nor the powder is used, but simply a thorough cleansing through an opening into the drum membrane that is large enough to secure drainage, with the insertion of gauze wick or cotton pledgets that are frequently changed; if the opening is not large enough, he incises at the posterior inferior quadrant of the drum membrane. This completes the office treatment; and for the home treatment, which is equally important, he instructs the mother or attendant in regard to the anatomy, and fully explains how to use the cotton pledget, which is to be inserted at a depth that will reach the bottom of the canal without doing injury, and clean it; this to be continued until the tip of the pledget is no longer moist. Then she is to take as much of the powder ordered as will go on the tip of a small penknife, and blow it into the ear through a bit of tubing. If the suppuration is a good-sized one and considerable caries is present he frequently has boric-acid alcohol drops used at home also. Finally he instructs how to insert a small narrow pledget tip in the ear and leave it there, changing it from one to three times daily, then he sees the child again in from three to seven days. This method he finds decidedly successful.

26. **Ophthalmic Memoranda.**—DeBeck describes cases of orbital abscess in la grippe, uremic blindness during pregnancy, rheumatic effusion into the vitreous, rheumatic iritis, retrobulbar neuritis after a burn, a peculiar case of fracture of the orbital floor and also a case of ring scotoma.

28. See abstract in THE JOURNAL of Dec. 23, 1899, p. 1616.

29. **Management of Summer Complaint in Infants.**—Koplik believes that in a great majority of gastro-intestinal diseases, infection is the keynote, and that too little attention has been given to the examination in this regard. Its prognostic value is very great, if we know that streptococci are absent. He thinks that much good is done by carrying patients to the doctor, for the sick child is better on the street than in its home, as it gets better air; and that much attention should be given to the food. In his clinic he goes so far as to furnish water in bottles of 6 oz. capacity, necessary for the preparation of simple albumin water when the child can not take milk. He believes that hospitals are not so favorable for these cases as camping out or cottage treatment, because of the disadvantages of crowding a large number of children together in a ward or sanitarium, especially if a case of any contagious disease is discovered.

30. **Incubators.**—Voorhees discusses the care of premature infants in incubators, the best form of which he thinks is that of M. Lion, which can be disinfected rapidly and is well ventilated. He thinks the infant should be kept in the incubator until it has reached the development of full term, or longer if necessary. Its napkins should be changed from three to four times a day, only often enough for cleanliness. The feeding should be carefully adapted to the child, being gradually increased until it is every hour taking from 6 grams to an ounce of a sugar solution, with breast milk added. One great danger of the incubator is infection, as it is a breeder or germ carrier and should be regularly disinfected. The paper gives the statistics of 106 incubator infants, 77 of whom survived the fourth day. Not counting those who died in a few hours, they were able to save 66 per cent. of 6½ months children, 71 per cent. of the 7 months, 89 per cent. of the 7½ and 91 per cent. of the 8 months.

33. **Sexual Impulse.**—Ellis, after noticing the various theories, concludes that we are now in a better position to estimate and define the contents of this impulse. He says that there are, as Moll has indicated, two constituents, but instead of being unrelated or nearly so, they are so intimately connected as to form two distinct stages in the same process: A first stage, in which images, desires and ideals grow up within the mind, while the organism generally is charged with energy and the sexual apparatus congested with blood; and a second stage in which the sexual apparatus is discharged amid profound sexual excitement, followed by deep organic relief. The first process creates, or at all events intensifies, the tension which the second relieves. It seems best to call the first impulse in the process the instinct of tumescence, and the second the instinct of detumescence. The first, taking on usually a more active form in the male, has the double object of bringing the male himself into the condition in which discharge becomes imperative, and at the same time arousing in the female a similar ardent state of emotional excitement and sexual turgescence. The second instinct has the object, directly, of discharging the tension thus produced, and indirectly of effecting the act by which the race is propagated.

44. **Suppurating Diseases of Temporal Bone.**—Burnett reports a number of cases of mastoiditis, Bezold's abscess, general necrosis of the temporal bone, etc., in whites and negroes. Some years ago he reported on the rarity of dry catarrh and suppuration among the negroes, though the latter is frequent among the children; they are almost without exception badly nourished and scrofulous, though not always tuberculous.

47. **Rinne and Gelle Tests.**—Brühl discusses the value of these tests; the former, which is well-known, consists in the observation of the phenomenon that the sound of the tuning-fork can be heard, if held in front of the ear, even after it can no longer be heard when placed on the upper incisor teeth. The Gellé test consists in putting the sounding tuning-fork on one of the cranial bones, while the external auditory canal is compressed; if the intensity of the sound becomes diminished, the stapes is movable, but if the sound is unchanged, it is immobile. The conclusions which Brühl draws are: If the Rinné test is positive, then the Gellé is also unexceptionally positive, and the impaired hearing is due to nervous affections. If the Rinné test is absolutely or totally negative or up to C., the Gellé test is unexceptionally negative, and the impaired hearing is due to stapes ankylosis. If the Rinné test is negative below or up to the C, limit, and positive above it, then the Gellé test decides whether or not a stapes ankylosis exists.

51.—See abstract in THE JOURNAL of April 14, p. 935.

52.—Ibid.

53.—Ibid.

54.—Ibid.

55.—Ibid.

56.—Ibid.

59. **Alcoholic Stimulants in Typhoid.**—The use of stimulants in typhoid is indicated by three conditions; toxemia, exhaustion and the accidents of perforation, hemorrhage, etc. In the ataxic form, alcoholic stimulants should not be used, but in the adynamic form, especially in what is called the "typhoid state," they may be of value. They should be used with moderation, as it is better to give too little rather than too much, but the best guide is the renal secretion; if it increases by stimulation, such treatment is necessary. In typhoid septicemia alcohol may be given more liberally, and similarly in exhaustion. Perforation requires the same stimulation needed in surgical shock from other causes, but it should be proceeded with gradually. In hemorrhage, gentle and persistent, not free, stimulation, with opium added to the alcoholic is best. In convalescence stimulants are often useful.

60.—See abstract below, ¶ 81.

61. **Diet in Typhoid.**—Packard reviews the recent literature on the more liberal diet of typhoid fever and notices especially the paper of Bushuyev. He holds that while we may doubt the ability of the patient with the fever to assimilate many of the articles allowed by him, we have facts enough to warrant, if not compel, greater liberality than has formerly been allowed.

62. **Enucleation of Eye.**—De Schweinitz reviews the different methods used and the substitutes for enucleation, that of Ernest Hall, the eviscero-neurotomy of Huizinga, Mules' operation, also Frost's, etc., and in conclusion holds that the operation of enucleation in many instances can not be banished from ophthalmology; and that while some of these methods furnish better cosmetic results when they are successful, there is reason to believe that with improvement in the artificial eyes and the technique in preparation of the stump, an equal im-

provement may be expected, after so-called simple enucleation.

75. **Iritis from Dental Irritation.**—Milliken reports a case of iritis apparently directly connected with decayed teeth, and relieved by their treatment. He thinks there is no question as to the causal relation of the dental disorder to the iritis.

77. **Congenital Color-Blindness.**—Nagel gives an elaborate discussion of certain facts in regard to tests for color-blindness that are based on his own experience, as he is green-blind. He believes that the green test should be retained as the first one, and in a general test of a large number of persons should be considered the decisive one in diagnosing whether or not the color sense is normal, and that the purple test can not be neglected, since it is most convenient for distinguishing red- from green-blind. In tests individually or in a small number, it is best to also use other ones. He notices the various methods that have been advised; those of Daae, Stilling, Pflueger's contrast method and the new pseudo-isochromatic color charts devised by himself, consisting of rings of dots arranged with confusion colors, etc. He also describes an apparatus for testing by means of colored glasses, that is convenient in testing large numbers of persons. He says that it is unjust to consider as color-blind all those who make mistakes with the worsted tests and to refuse them employment in the marine and railway service; and that Holmgren's test is not a reliable one for determining the ability of a person to recognize colored flags or lights. In his opinion tests for this purpose should deal with the color sense of the fovea alone, or the immediately adjacent central portion of the retina. His own test for this purpose is done with a blackened disc, 10 cm. in diameter, with a ring of perforations 1 mm. in diameter, covered with bits of glass of various colors and illuminated by a burner behind. This is viewed from a distance of 1 or 1.5 m., and as the different colors are shown the person is required to name them. In a series of cases in which the tests diagnosed as determined by Holmgren's method did not agree with that of his color apparatus and charts, this method of luminous points always confirmed his diagnosis.

80. **Palpebral Reaction.**—Gifford remarks on the pupilary reaction described by him in 1895 and later discovered by Westphal and Piltz, the latter of whom credits it to Wundt. According to Gifford, this is incorrect and due to a misunderstanding of Wundt's language. However, in regard to the claim of Mingazzini for Galassi as the prior discoverer, he admits that Galassi described it, not only before he did, but before he had even observed it. The point of importance in which Galassi did not anticipate him is that, although it is a reaction from the facial, it does not depend on a reaction of all the fibers of the orbicularis, but chiefly or entirely on the action of those which move the lids or perhaps the upper lid alone.

81. **Intestinal Antisepsis in Typhoid.**—While typhoid fever is no more primarily an intestinal disease than is smallpox a cutaneous one, Anders concedes that in the majority of cases the principal seat of infection is in the intestinal tract, hence the *rationale* of a certain amount of intestinal antisepsis in its treatment. The principal indication for the use of antiseptics is the meteorism due to decomposition in the *prima via*. The normal antiseptic fluids are not present in due proportion and he thinks that the possibility of over-feeding may have something to do with the condition. Assuming milk to be the principal diet, he advises the use of HCl in small doses after each feeding, with a view to supplementing defective gastric secretion, and in robust patients, the use of calomel during the first few days of fever. For a number of years he has been in the habit of giving intestinal antiseptics throughout typhoid, except in the light forms, as they render the dejecta less offensive; and while we can not hope to destroy the infection, as it has generally reached the circulation and adjacent organs, it is probable that the intestinal disorder is in a measure dependent on the disorder of the function which is the indirect effect of typhoid infection; and a rational indication is to neutralize or eliminate the toxic substances from the intestinal canal. The free use of water is one valuable method. In some cases he gives a mild laxative in diarrheal typhoid fever to carry off the decomposing food residue. The bowel antiseptic which he has used for many years is salol, the average dose 3 gr. every three hours; where marked distension of the bowel is present white turpentin is preferred, in doses of 3 to 5 gr. every three or four hours. For the constipation sometimes present, he has found a soap-suds enema every second day the best remedy, and in a few cases has practiced intestinal irrigation, but this is not to be thought of when the principal lesions are in the small intestines with moderate tympanites. Often, however, the ulcerative process is largely confined to the colon, and there is marked tympanites due to distension and active diarrhea sometimes dysenteric, then irrigation judiciously and cautiously carried out sweeps from the bowel decomposing material and toxic products. The solution employed must be warmed and gently introduced at a low pressure. He prefers a solution of salicylic acid not exceeding ½ per cent., or mercuric acid not over 1 in 6000. In bad cases the irrigations should be practiced every four hours, but ordinarily three times a day will do.

82. **Diet in Typhoid.**—Smith thinks that a greater variety of food in small quantities is better than a larger quantity of a single article. The aim should be to give the minimum food that will sustain the patient, not the maximum amount that he will take ,and the diet which has stood the test of considerable experience includes—with milk—broths, soft-boiled eggs, junket, custard, the soft part of raw oysters, milk toast, scraped chicken, scraped beef, chicken and rice boiled to a jelly, sago, tapioca, corn-starch, and animal jellies. From these an agreeable variety can be arranged and any article that disagrees eliminated; any rise in temperature should lead to careful scrutiny, including the diet. Without distension it is more likely to be caused by fecal absorption and requires a cathartic, but if repeated and accompanied by sweating, it may indicate infection through ulceration. When milk is used persistently it can be better adapted to some patients by lessening the percentage of casein, which is accomplished by letting the milk stand in a cool place for five or six hours and then pouring off the upper half or two-thirds and filling up the bulk with water. This is useful when specks of undigested curd appear in the movements. If there should be acid or rancid risings from the stomach, showing the presence of too much fat, a portion of the cream should be skimmed off. At any time the monotony of the diet can be relieved by adding coffee, which is a valuable heart stimulant, to the milk.

83. **Treatment of Typhoid.**—Billings insists on the general management including disinfection, a good nurse to look after the diet and carry out the physician's directions, and medication, which is not so essential except in the use of proper drugs to meet the emergencies that may arise. He believes that it is good practice to begin with a cathartic, and that the fever is best treated with water by the Brand method. For constipation, he used enemas every two days but should have no hesitancy in using simple saline laxatives. He considers strychnia good for heart weakness, the bromids for delirium, and ¼ gr. of morphin hypodermically in case of hemorrhage from the bowels repeated every three or four hours if needed, and normal salt solution with chlorid of calcium. He says that ergot is of no use, and that if perforation should occur the patient should be turned over to the surgeon.

91. **Cancer.**—Bra and Mongour have isolated and studied the Nectria ditissima or parasite of true cancer, and have obtained an extract from it which they call nectrianin that appears in the form of a yellowish or brownish liquid and causes by its injection various phenomena in man and in animals. If the animal is healthy, repeated doses—5 c.c. each—several times a week produce no special effects, but if cancerous tumors exist, the temperature is raised in two or three hours from 1 to 3 degrees. If the dose is increased, this fever is accompanied by chills, cardiac palpitation, acceleration of pulse, headache and thirst, and terminates at the end of some hours by polyuria and profound sleep. It seems to have vaccinal properties, as animals thus inoculated and afterward infected with cultures have never produced experimental tumors; the results have simply been abscesses. The therapeutic action of the drug has been studied by Mongour on cancerous patients, through hypodermic injections, which produced decided relief of symptoms, though no decided amelioration of the general health, or increase of weight. In spite of the slight toxicity of

the drug employed—it requires from 30 to 35 grams per kilo of rabbit to kill—they never used more than 4 c.c., injected daily. They conclude that it has the effect of producing improvement and relieving the aggravating symptoms, and that it may therefore be an efficacious treatment. However, to be effective it requires continuance, and has not so far led to anything like a cure or arrest of the disease.

92.—See abstract in THE JOURNAL of March 24, p. 750.

93. **Syphilis of the Viscera.**—Hoover reports 6 cases of visceral syphilis, the diagnosis of which was confirmed under antisyphilitic treatment. The first he regards as syphilis of the aorta, the second as that of the pulmonary artery because of the hemoptysis and evidences of disease of the myocardium, and the third apparently pulmonary syphilis, while the others were syphilis of the liver and spleen.

94. **Examination of Male Genitals.**—The neglect of examination of the male genitals is in striking contrast with the course usually adopted with females in obscure disorders, and Valentine suggests its importance. He mentions the rheumatic pains about the hip-joint, connected with trouble in the seminal vesicles, and says that many cases of suicide are probably connected with thihs class of disorders. The urethroscope should be more commonly employed, as it is now within the possibilities of the general practitioner.

97. **Diseases of Korea.**—According to Avison, the Koreans are unwholesome in their methods of life and not especially careful in regard to cleanliness. Sanitation is almost unknown, and the drinking water almost inevitably defiled. The staple crop is rice of the lowland variety, and malaria goes with it and is the cause of many other diseases. Outside of malaria typhoid and relapsing fevers are the most frequent; tuberculosis plays great havoc, every form having been found, but it certainly does not come from the use of milk. Venereal diseases are prevalent, leprosy has gained a foothold in the southern part, and also a peculiar disease somewhat suggestive of tuberculosis, but in which he has not been able to find the tubercle bacilli. Beri-beri is mostly confined to the Japanese residents; smallpox is common, but vaccination is coming into favor; scarlet fever and diphtheria are not prevalent, but measles and whooping-cough are. Cholera is occasionally epidemic, while dysentery is one of the chief plagues of the country and not unfrequently followed by hepatic abscess. Cataract is common, also much blindness, due to the prevalence of smallpox. The Korean medicine is the Chinese medicine and has its general demerits.

100. **Ischemic Paralysis of Muscles.**—Bernays calls especial attention to the paralysis of the muscles, due to the damage produced by cutting off the circulation by tight bandaging, etc., and quotes from Leser, Volkmann and others in regard to it. He thinks the recognition of the condition will prevent this in the future, and that the recent attention which has been called to this subject by Leser and others is timely and important.

114. **Smallpox in Porto Rico.**—Wadhams reports the methods and results of vaccination in Porto Rico. This has already been done by Groff, but Wadhams gives more details, and states among other facts that, while the tuberculin reaction was obtained in a number of animals used for preparing the virus, not one was found to be tuberculous.

115. **Sprains.**—Huntington believes that in all, except slight sprains, there is some injury to the capsule of the joint that ranges from the giving way of a few fibers, to perhaps a laceration of great extent and hemorrhage into its cavity; and that the swelling so prominent in all serious sprains is probably due to such extravasation, as the muscles rarely escape injury, and the tendons and their sheaths are often also involved. He believes that permanent injury is often due to this rather than to the trouble in the joint itself. Since it is impossible to demonstrate how far patients are injured in sprains, he thinks that the secondary effects may be more serious than is commonly supposed. The old idea that diseases of the spine, hip, etc., start in sprains is perhaps more true than is now thought. Sometimes dislocation and fractures of bones have been mistaken for sprains, and while the fracture of a styloid process or malleolus is only a complication, it should not be overlooked. When in doubt as to the existence of injury, one should give an anesthetic if necessary and thoroughly examine the parts. While Nature usually mends these injuries, in some cases a low vitality and constitutional defects may cause them to produce serious results. The old method of fomenting and applying liniments, is very unsatisfactory. As long as the blood continues to flow into the joint the trouble is increasing, and our first object should be to check hemorrhage of the torn vessels; this is best done by applying a firm even pressure by strapping with strips of adhesive plaster that immediately brings most gratifying results. If the conformation of the sprained joint forbids the use of plaster strips, bandages of muslin, not rubber, may be used, carefully padding all hollows so that the pressure is exerted on the soft parts and not on the bony prominences. He believes in hot water applications as a precedent to this dressing, that splints are rarely required, and that passive motion should be begun early and applied only in the natural directions, as there is then no danger of stretching, or displacing the parts. Electricity, massage and stimulating liniments may be used later if necessary, after the active symptoms have subsided. If motion seems permanently impaired from adhesions, the best plan is to give an anesthetic and break them down, so as to have a fresh sprain, and by care avoid the development of further trouble.

117.—See abstract in THE JOURNAL of May 12, ¶ 11, p. 1184.

124.—This paper is editorially considered in this week's JOURNAL.

FOREIGN.

British Medical Journal, May 12.

Plague in the Lower Animals. FRANK G. CLEMOW.—A large number of animals, including not only the vertebrates but some of the lower forms, have been proved liable to infection by plague. Among the mammals, monkeys have been observed on at least three separate occasions to have sickened and died under natural conditions, and each time the germ has been discovered bacteriologically. Under artificial conditions, they have shown themselves very susceptible, but there is not much proof that they aid in spreading the disease to any considerable extent. The chief agents in this direction are the rodents, especially the rats, which suffer in every epidemic. Their symptoms vary as in man, and occur under their natural conditions of life or can be produced artificially. They may become infected from the soil, which under certain circumstances may contain the virus of plague, and there is a possibility of their obtaining the germ from infected grain, while it is also probable that they may contract the disease from other animals, though there is no positive proof of this. Rats are so ubiquitous and omnivorous that the chances of their infection are manifold. There is good reason to believe that plague can be spread from rat to rat by means of insects, especially fleas, and it must be admitted that they can and do suffer from plague under natural conditions, and that they are capable of diffusing infection and transmitting it to man; but the extent to which they are responsible for the general diffusion of the disease is uncertain. Their habits of traveling in public conveyances, ships, etc., make it a matter of special importance to guard against them. There is not much evidence that mice suffer to any great extent under natural conditions. Squirrels have been known to have it, though instances of their contracting the disease are rare, and the part they take in its spread must be very small. Other animals that are liable to suffer are the marmots. These are thought to have spread the disease in east Mongolia. Guinea-pigs and rabbits are susceptible in the laboratory, but are not known to have contracted the disease under natural conditions.

Researches Into Nature and Action of Snake Venom. ROBERT H. ELLIOT.—The writer has experimented with snake venom, which does not seem to be effective when taken by the mouth, but is found to be very quickly absorbed when introduced directly into the tissues. He drew out a portion of the small gut through an abdominal incision, establishing an artificial anus, and after the parts had healed, the cobra venom, dissolved in milk, was injected into the lower disconnected portion of the gut, the hepatic, pancreatic and biliary secretions being cut off from this section. The animal died.

and the result shows that the venom could be absorbed through the intestines, though not so rapidly as by way of the subcutaneous tissue. Professor Fraser has shown that the bile is to some extent a protective against the venom, but Elliot's experiments show that this is not alone thus active; he followed up Fraser's suggestion that pancreatic juice may also neutralize it and found that trypsin is capable of reducing very materially the lethal properties of cobra venom, when kept at a temperature of 100 F. The above-shown properties of trypsin explain why the venom fails to kill when swallowed, even after the protective influence of bile has been excluded, though it would certainly kill if given in large enough quantities when the bile and pancreatic secretions are excluded from the area of the intestines which has to deal with the venom. The above experiments were made on rabbits, but he found that he could not produce symptoms of poisoning by injecting a large dose in the rectum of a dog. He also found that in rabbits injection into the peritoneum killed much more rapidly than that into the subcutaneous tissue, and that feeding animals on venom produced a certain immunity to it when injected subcutaneously and he surmises that when taken by the mouth it passed in some form, probably an altered one, into the general circulation. It is, he thinks, more than likely that the mongoose owes its immunity to the habit of eating the heads of serpents that it kills.

The Lancet, May 12.

Ptosis of Liver and "Floating Lobe." FREDERICK TREVES.—The author defines floating liver and points out the distinction between general ptosis and the "floating lobe," in which a portion of the right liver becomes projected downward in the form of a large tongue-like appendage. He describes the anatomy of suspension of the liver, the manner of its downfall, and the deformity which follows. The liver becomes more flattened out, the anterior or inferior border of the right side seems to be drawn downward and, with the gland adjacent to it, much thinned. In many cases a nearly transverse groove is found across the anterior surface of the elongated part of the right lobe. It may sometimes be a real constriction almost causing amputation. As to the cause, there is little that is precise in our knowledge. The symptoms are the physical signs of tumor, various nervous disturbances, dyspepsia, discomfort in the abdomen, dragging from the back, sometimes vertigo and perhaps jaundice, as claimed by Faure. He gives the method of examination in detail. The "floating lobe" is not always easily diagnosed; in most cases this is only assured in the post-mortem, and it is sometimes mistaken for movable kidney. The medical management of liver ptosis consists merely in the treatment of symptoms. Belts may be of value. The operative treatment consists in various methods of suturing. Treves does not favor either amputation or suturing of the "floating lobe." The indication for its treatment does not go beyond that of the treatment of distended gall-bladder, with which this deformity is often associated. In complete ptosis much may be done by carefully applied and substantial support, and something more elaborate than a belt may be necessary. A ponderous organ like the liver can not be sufficiently supported by a few isolated sutures of silk or catgut, and operation is needed only in extreme cases.

Diagnosis and Prognosis in One Hundred Cases of Double Optic Neuritis with Headache. R. T. WILLIAMSON AND EDWARD ROBERTS.—The authors call attention to the class of cases in which double optic neuritis occurs, sometimes with vomiting and other symptoms, but which afterward clear up without any apparent cause. Sometimes the general symptoms disappear and leave blindness. He suggests the probability of a tumor becoming latent, or sometimes distention of the ventricles of the brain as a cause for this condition. In cases of double optic neuritis we should watch the urine and cardiovascular system for nephritis, look out for lead poisoning, chlorosis, etc., and the ear should be examined for otitis. If all these can be excluded, the probable diagnosis of brain tumor is justifiable, but it may sometimes, as in cases mentioned, not be supported by the outcome.

The Practitioner (London), May.

Distinguishing Features of Rheumatoid Arthritis, Gout and Rheumatism. ARTHUR P. LUFF.—The differential diagnosis of arthritis and rheumatism is discussed by Luff. He thinks that many cases of chronic rheumatism of the joints are not such, but are rheumatoid arthritis or gout. Rheumatism itself does not necessarily manifest itself as a joint disorder and he thinks the treatment with salicylate of soda is a good diagnostic point. If it has succeeeded, the case is rheumatism, if not, one of the other forms should be suspected. The distinction between rheumatism and gout is somewhat difficult, but the following are the distinguishing characteristics. Rheumatoid arthritis is most commonly found in females, gout in males. The former occurs mostly among the poor and ill-nourished, and especially under conditions of depressed health, prolonged anxiety and exposure. Gout occurs among the well nourished and well-to-do. Arthritis is improved by good diet, the reverse is the case with gout. Gout usually begins in the feet, the other generally in one of the joints, usually the thumb. In arthritis there is no obvious swelling at first and no marked redness and little pain. The insidious nature of the attack is one of its worst features. Gout begins suddenly, with serious pain, redness and swelling. There is a lack of symmetry. Gout no doubt is due to the accumulation of uric acid, but as regards arthritis there is a great difference of opinion. The author combats the nervous theory and believes that it is an infectious disease. He quotes the findings of Bannatyne, Wohlmann, Schneider and others in support of this view. It is not common to have gout and rheumatoid arthritis associated. Rheumatism certainly predisposes to rheumatoid arthritis.

Some Clinical Varieties of Osteo-Arthritis. ARCHIBALD E. GARROD.—Multiple rheumatoid arthritis falls into three main clinical categories. In young patients the disease often tends to advance with great rapidity so that in a few months it may cause widespread deformity. In older patients its progress is more gradual, and, though many articulations may be implicated, the appearance of the joint differs from that of the young and the destruction is somewhat different. There are usually definite bony enlargements; the carpometacarpal joints of the thumb are especially liable to be affected, and not unfrequently are the first of the hard joints to suffer. The more acute cases which occur in younger patients may be divided into two forms—the fusiform and the crippling. In the former, the fusiform enlargement appears to be chiefly due to swelling of the capsules with synovial effusion. The terminal joints of the finger usually escape and the brunt of the disease is borne by the metacarpophalangeal and first row of interphalangeal joints. The vertebral column is usually early involved, stiffness of the neck is common, as also is stiffness of the temporomaxillary joints, though it is seldom serious, but it is often of diagnostic importance. In the larger joints there is a similar swelling, and the knees, wrists, and ankles are rapidly involved, muscular wasting adds to the deformity. The third form or crippling variety is usually met with in early adult life, muscular wasting is rapid and conspicuous swelling of the joints is not so marked but sharp osteophytic growths are usually felt on the ends of the bones. Some joints become permanently flexed, while all are rendered almost completely immobile. How far these clinical varieties indicate pathologic distinctions is hard to answer, and there is much to be learned in regard to them. As regards treatment, the nodular cases and crippling variety show little tendency to be helped. In the fusiform variety some good can be done if treatment is steadily persisted in. The drugs given should be tonic rather than depressant in their action, and the diet should be limited only by the patient's digestive powers. Mineral baths are mentioned as occasionally of value.

Varied Forms of Rheumatoid Arthritis, with Illustrative Cases. WM. ARMSTRONG.—The points worthy of consideration, according to Armstrong, are given as follows: "1. The more clearly these cases approach the gouty or rheumatic type the more favorable is the prognosis. 2. The more the neural factor comes into evidence, the more refractory they are to treatment. 3. It is necessary to look for every possible source of reflex irritation. 4. Whatever reflex irritation is present, the condition of the central spinal nervous system

should not be lost sight of. 5. However strong the patient may appear to be, supporting rather than lowering treatment should be adopted. 6. In arthritis the dietary should consist of more butcher's meat, less starch, and no sugar; this is especially necessary where gastric atony or duodenal fermentation are present or where the excretion of uric acid is decidedly below the normal. 7. This form of dietary requires careful watching, and exact application to the individual. 8. Electric baths are valuable in the majority of cases; the 'sinusoidal' if much neuritis be present, if it is necessary to quicken metabolism, or to stimulate excretion; the 'constant,' if a soothing effect upon the joints is required. 9. There is the greatest difference between electricity given in the baths and in the dry; in the former case the patient is wrapped in what is practically an electrode of water and the whole nervous system is quickly brought under influence."

Osteo-Arthritis, or Rheumatoid Arthritis, Its Pathology and Treatment. GILBERT A. BANNATYNE.—The condition distinguished under the head of arthritis deformans, etc., presents itself in three well-marked types: 1, an acute polyarticular disease; 2, a chronic articular one of primary and secondary forms; and 3, a monarticular disease. The first of these occurs in the young, accompanied with fever which finally subsides and there is a thickening of the synovial membrane and muscular atrophy. The bones may be softened, but with no outgrowths or lipping. In the chronic form we have the hardening and thickening of the joints with cartilaginous outgrowths and deposits. In the third group, which generally occurs in men as a result of injury, there is an affection of one or two joints, with bony absorption and destruction of the cartilages, limited motion, and generally slow progressive local degeneration. The theories are discussed and the author favors that of toxic infection from bacilli for the first form. The bacterial theory is the only one which he thinks will rationally explain it. The second he is inclined to look on as of bacterial origin with loss of virulence as compared with the acute form. In the third form he would say there is a pure degeneration of the joint structure. As regards treatment we can do little directly to neutralize toxins, but proper attention to diet, clothing, exercise, baths, massage, etc., will be of value. As for drugs, guaiacol, salicylates, etc., are of value. Methyl salicylate and guaiacol painted on the joints seem to give good results.

Bulletin de la Soc. Med. (Paris), May 3.

Effect of Persisting Nasopharyngeal Lesions After La Grippe. M. FAURE.—The lesions so common in the nasopharynx after la grippe may induce rheumatic manifestations persisting for months, but vanishing at once as soon as the lesion is cured. Faure has treated twenty patients with this syndrome, relieving the general symptoms with antistreptococcic serum, which seems to rapidly suppress the virulence of the streptococcus toxins and hence the general symptoms, but has little effect on the local process. This he treats with resorcin in oil and inhalations of mentholized alcohol. These small, ignored infections in the nasal fossæ or their annexes may be the cause of many rheumatic, neurasthenic or neuropathic accidents to which some other etiology has been ascribed.

Presse Medicale (Paris), May 2, 5 and 9.

Incipient Coxalgia. P. DESFOSSES.—Whenever a child complains of pain in the hip or knee, or limps intermittently, evidences of coxalgia should be sought. If less than 1 year old, when lifted by the axillæ the legs of a normal child will kick around, but if one of the joints is affected that limb will hang straight and still or in slight flexion. When undressed and lying flat on his back, the limbs of a normal child are extended straight, but a limb with incipient coxalgia is always flexed, the knee raised, and if the limb is pressed down straight, the trunk will curve upward in pronounced lordosis, allowing the passage of the hand between the lumbar region and the bed. If the sound leg is flexed on the pelvis, a normal child allows the other limb to remain extended straight, but the coxalgic invariably flexes the affected limb, elevating the knee. Palpation will also show atrophy of the muscles. Pains can also be induced by pressure on the base of the triangle of Scarpa, and also in this same spot by pressure at a distance, tapping on the trochanter, the heel or the front of the knee. Attempt at abduction of the thigh is also painful. For treatment, Desfosses recommends a large plaster cast, immobilizing the extremity in a good position, but allowing the child to be up and about on crutches, the foot raised above the ground by a high extension shoe on the sound foot. He puts on a tricot vest, the legs in the sleeves, and for a child of 7, winds eight plastered bands 5 meters in length and 6 cm. wide, from ankle to axillæ, around the entire affected extremity and the trunk. Pure air, sunshine and good food, "including cod-liver oil," will complete the cure and promptly arrest an incipient lesion.

The Permanent Urethral Sound. F. GUYON.—The permanent sound is a therapeutic measure of the utmost importance. In febrile urinary infection and in prostatic or urethral hemorrhages it promptly and positively arrests the accidents. The reappearance of temperature indicates infectious localizations elsewhere and is thus an important guide to the surgeon. Guyon adds that the benefit derived is permanent, even after the sound is discarded except for occasional use.

Mitral Dwarfs. A. GILBERT AND F. RATHERY.—A special clinical type is described, characterized by pronounced mitral stenosis without functional symptoms, and multiple dystrophic disturbances. They propose for it the name of "mitral nanism," as the small size of the subjects is the most striking characteristic. In three typical observations the height varied from 4 ft. 5, to 4 ft. 11 inches, in great contrast to the size of the parents. This dwarfishness is accompanied by a specific facies: round-shouldered, wrinkled, the subjects appear much older than their age, or fresh, vivacious, perennially young. They are loquacious, speaking rapidly and stammering, with subnormal intelligence and queer, original, inconsequent ideas. All are easily frightened and great cowards; some apathetic and lazy. In certain cases cardiac epilepsy has been noted, also hysteria or chlorosis. The writers emphasize this mitral hysteria and mitral chlorosis. Albuminuria is occasionally observed and gastric disturbances are frequent, but there is little disturbance in the genital sphere. Various malformations are noted: the lobe of the ear is "glued down;" the axis of the nose one-sided; the sternum may be deformed; one shoulder less developed than the other; supplementary fingers, congenital amputations, prognathism and general hypoplasia. The mitral lesion remains latent and does not make trouble even with pregnancy and repeated attacks of acute articular rheumatism. This absolute lack of cardiac disturbances in these small-sized persons with an unmistakable mitral stenosis is interesting to compare with the serious and tenacious cardiac accidents that sometimes occur in large-framed persons with commencing senile involution without the slightest trace of a valvular affection to be discovered. The writers are making a special study of this condition for a future report. The freedom from cardiac accidents is most complete in cases of pure mitral stenosis and complete "nanism." If the latter is less pronounced, and insufficiency complicates the stenosis, then functional symptoms become apparent. Hemiplegia may be the first manifestation of the lesion, with or without aphasia, both usually incomplete and transient, but liable to recur.

Semaine Medicale (Paris), May 5 and 9.

Arteriovenous Aneurysm of Aorta. RENDU.—An engraver 47 years old, quietly at work, in his usual good health, was suddenly seized with intense pain in the precordial region and an almost immediate development of an extensive edema of the neck and face, of a bluish tint, with threatening asphyxia. This condition improved but slightly during the week; collateral circulation then became established and varices appeared. The symptoms indicated an aneurysm complicated by obliteration of the vena cava by a thrombus or escape of the arterial blood into the latter vein through some fissure. The autopsy confirmed the latter supposition: a perforation the size of a bean was found at the base of the large aneurysmal sac, communicating with the inferior vena cava by its anterior wall. There were no clots in the vein nor in the venous trunks debouching in it.

Action of Iodoform on Normal Tissues. V. CORNIL AND COUDRAY.—Injection of iodoformed oil in the peritoneum of dogs and rabbits induced inflammation similar to that produced by traumatism or any aseptic irritating agent. There was first a tendency to necrosis, followed by invasion of leucocytes, and a phase of nutritional superactivity and formation of endothelial and plasma cells. Its therapeutic effect is evidently due to the liberation of nascent iodin by the action of fats or of the microbes or their toxins. In spite of the deluge of new antiseptics, iodin still holds the first rank, Mikulicz recommends painting the field of operation with tincture of iodin before an operation and sterilizing the finger nails by dipping them also in the tincture. Rydygier advises wiping the hands with iodoformed gauze dipped in sublimate solution, as the final step in their asepsis. K. Brunner, in his large work on the treatment of wounds, published in 1898, stated that a saturated solution of iodin in 50 per cent. alcohol is the best disinfectant known. Coudray treats deep fistulæ very successfully by introducing iodoform in suspension in ethyl chlorid, which boils at 10 C. Slightly heating the "ipsileur" containing the mixture, it emerges in the form of a gas, carrying the iodoform with it and depositing the latter in an even layer throughout the entire cavity—a most effective method of local application in all wounds and cavities.

Deutsche Medicinische Wochenschrift (Leipsic), May 10.

Diagnosis of Gastric Hyperacidity. L. SCHUELER.—The condition known as "masked hyperacidity" is not so difficult to diagnose as generally supposed, if with a characteristic clinical picture the stomach-contents possess a certain number of properties which we are accustomed to attribute to a hyperacid gastric juice, even in the absence of considerable amounts of free hydrochloric acid and total acidity. The three chief elements in the diagnosis are the specific behavior of starch digestion, the comparatively large amount of the contents and the low specific gravity, after an Ewald test-meal. The digestion of starch continues in the stomach by the action of the saliva ferment for a certain length of time—the "stadium amylolyticum"—in normal conditions, but with abnormally rapid and large secretion of acid, this stage is materially shortened, and amidulin will be found to excess in the stomach-contents, with a corresponding absence of dextrorotatory substances. The quantity of the contents varies normally from 75 to 305 c.c., average 180, but the average in forty hyperacid patients examined at Senator's clinic was 210 c.c. A specific gravity below 1010 scarcely ever occurs except with hyperacidity, hypersecretion or gas fermentation. Above 1020 suggests hypoacidity. The freezing-point varies from .33 to .58 in normal conditions, but with hyperacidity .27 and .25 have been noted. Seventeen observations are tabulated, all with normal amounts of total acidity, and yet with unmistakable clinical evidences of hyperacidity. We quote the findings in one case an hour after the test-meal: amount of stomach-contents, 315 c.c.; specific gravity of filtered contents, 1010; total acidity, 36; free hydrochloric acid, 22 degrees; Trommer's test positive; polarization, 1 per cent. dextrorotatory substances; blue-violet reaction to iodin; lowering of freezing-point .27.

Acute Dilatation of Heart and Cor Mobile. A. HOFFMANN.—The liability to error in diagnosing dilatation of the heart, from an abnormally high diaphragm and more especially from a movable heart, is emphasized in this article.

Epileptic Seizures and Uric Acid. CARO.—A young man in good health, except for occasional epileptic seizures, was examined to determine the connection between the seizures and the elimination of uric acid. The curves show that the amount of uric acid in the urine fell progressively from .104 per cent. to .059 in seven days, and then abruptly rose again. Two severe seizures occurred the day it reached its lowest point. The amount of urine varied in an almost parallel curve during the sixteen days of the test.

Muenchener Medicinische Wochenschrift, April 24, May 1 and 8.

Hystereurysis. DECKART.—Kuestner makes frequent use of the colpeurynter in cases requiring artificial delivery, but he inserts the bag in the uterus and therefore insists on calling it hystereurynter. This communication from his clinic tabulates the detail of forty-two cases in which he has applied it during the last six years. He especially recommends it for placenta previa. In his nineteen cases twelve of the seventeen living children were born alive, losing only 30 per cent., while the latest published statistics with Braxton-Hicks version show a mortality of 52 to 56 per cent. The results were most gratifying in every case as far as the mother was concerned, except one patient in extreme anemia, who died in half an hour after commencement of delivery. The membranes must be penetrated to allow the bag to enter and press the projecting flap of the placenta against the wall of the uterus. If the entire placenta projects, it has to be bored through with the finger or a blunt instrument to admit the bag. This entails the possibility of injury to the fetus, but this remote contingency should not be allowed to counterbalance the manifest advantages of the procedure, which is an invaluable means of inducing vigorous contractions of the uterus at any time during delivery. The physiologic mechanism of the birth-act is imitated as far as possible. The amount of boiled water introduced should correspond to the size of the head of the fetus; about 600 c.c. representing a circumference of 32 cm. Withdrawing a portion of the fluid sometimes accomplishes better results than the full amount. The average interval before the expulsion of the bag was 3½ hours. The hystereurynter should be kept clean and ready for use in a 1/1000 solution of sublimate, which does not seem to injure the bag, although the danger of bursting must be borne in mind. It has occurred in the writer's experience three times.

Ethyl Chlorid Narcosis. G. LOTHEISSEN.—"Visitors to our Innsbruck clinic have all been amazed at the rapid onset of anesthesia, the faultless course of the narcosis and the early complete awakening, with our method of ethyl chlorid narcosis." There has been one death known in the 2550 narcoses on record with it (Kocher), but in the extensive experience of the writer no inconveniences nor dangers have ever been observed, even with protracted narcosis in cases of lung and heart troubles. The subcutaneous injection of heroinum muriaticum is sometimes combined with the kelene narcosis in case of alcoholics. He uses the Breuer mask and restricts the amount to 1 to 2 gm. a minute, administering it very gradually from a small-mouthed vial, and if the patient becomes restless, waiting until no ethyl chlorid can be smelled at the expiration valve. If agitation continues he removes the mask at once and rubs the face with a cold wet cloth.

Fatty Necrosis with Affections of the Pancreas. M. B. SCHMIDT.—The autopsy of a man dying fifty-eight hours after having had the trunk crushed between two cars presented unmistakable evidence that the juice had been forced out of the pancreas and induced fatty necrosis of the adjacent tissues, an experience as convincing as a laboratory experiment, in explaining the etiology of fatty necrosis with affections of the pancreas.

Treatment of Anthrax. A. STRUBELL.—The writer confirms the great benefits derived in gangrenous anthrax from local injections of a 3 per cent. solution of carbolic acid, increasing from 12 to 24 c.c. a day, combined with hot cataplasms, 63 C., renewed every ten minutes night and day. The virulent germs found in the gangrenous focus at first were all destroyed by this treatment in six hours, and no further cultures could be derived. No carboluria was noted, nor other inconvenience.

Improved Inhaler. K. KLEIN.—The advantage of inhaling filtered, warmed, and possibly medicated air is obtained with the little respirator devised by the writer, which is also adapted for the use of persons who breathe through the mouth at night, and for workmen in industrial establishments. It is made entirely of aluminum wire and netting, and is thus extremely light and flexible, fitting like a cup over the mouth and nose, and fastened, like spectacles, by wires over the ears.

Asses' Milk for Infants. H. V. RANKE.—Asses' milk is a suitable, easily digested and most nourishing food for infants during the first few months, says v. Ranke, from his own experience and that of many other well-known practitioners. The relative proportions of the ingredients is a most

important factor in infant feeding, and in this respect asses' very closely resembles human milk.

Wiener Klinische Wochenschrift, April 15, 22, 29 and May 6.

Different Positions of Jaw as Aid to Surgeon. M. WASSERMANN.—The accessibility of the retromaxillary fossa is very much increased when the lower jaw is wide open and consequently the surgeon will find it a great assistance, in all operations in this region, to have the lower jaw held down as low as possible, thus pivoting forward the upper end. The writer usually incises down to the bone first, and then has the jaw opened to the farthest point and held by an assistant, to complete the operation with increased facility of access. The lower jaw can also be pushed considerably to one side, the mouth closed, and this will be found an aid to Salzer's resection of the trigeminus. By pushing it laterally and forward, Sonnenburg's resection of the alveolar nerves can be more easily accomplished.

Blood-Pressure with Digitalis. E. v. CZYHLARZ.—Tests of the action of digitalis, with Gærtner's tonometer, showed that the usual amount of inf. fol. digitalis administered to patients with heart troubles failed to increase the blood-pressure in persons with normal circulation. After establishing this fact, Czyhlarz further demonstrated that in normal individuals the amount of urine did not vary, while in cases of uncompensated heart troubles it is much increased. Czyhlarz ascribes this lack of diuretics to the corresponding lack of increase in the blood-pressure.

Movements of Intrathoracic Tumors in Swallowing. G. HOLZKNECHT.—Upward movement of an aneurysm as the patient swallows, indicates firm adhesion to the trachea and consequent danger of perforation into the latter and death from hemoptysis. The tumor in the case reported was ascribed to the innominate artery.

Diagnosis of Ischias. E. SUCHARIPA.—There seems to be a certain interrelation between the sciatic and lower abdominal regions, as sufficiently strong stimulus applied to the great sciatic is transmitted, probably by way of the spinal cord, to the cutaneous nerves of the lower abdomen and thigh. This interrelated system can probably be excited in other ways as, for instance, by the influence of irritation of the corresponding segment of the spinal cord proceeding from some internal organ or region of the body, aside from the above-mentioned route. Compression of the sciatic would induce violent radiating pains in the thigh, if this assumption is correct, even with a sound sciatic. In case of affection of some internal organ, connected like the sciatic, with the same segment of the spinal cord, abnormal excitability of the organ on account of its lesion might co-operate so that even slight compression of the sciatic from the periphery might produce a response in the nature of a violent paroxysm of pain in the thigh. It is sometimes very difficult to decide between intercostal neuralgia and lumbago. But if, on rectal examination, the lumbosacral plexus is found especially sensitive with radiating pains into the thigh, we have reason to assume from the data cited above that it is a case of intercostal neuralgia and not of lumbago.

Dysmenorrhea Membranacea. KOLLMANN.—It seems evident, from the research described, that dysmenorrhea membranacea has no connection with pregnancy and abortion and does not occasion sterility, while it may heal spontaneously. Besides establishing these facts, Kollmann announces that the dysmenorrheic membranes have nothing to do with inflammation of the uterine mucous membrane; that the fibrin membranes should be considered true dysmenorrheic membranes; that they are easily confounded with blood clots or the products of a croupous inflammation, but that in reality they are the product of a necrosis induced by hemorrhage and exudation into the tissues.

Gazzetta degli Ospedale (Milan), April 15, 20, 22 and May 7.

Prophylaxis of Malaria with Insect Repellers. C. FERMI. A series of four hundred tests with various insect-repelling substances sprinkled on the clothes or smeared on the skin, resulted in the discouraging conclusion that no substance is yet known which will positively repel gnats and mosquitoes for one to two hours. The immunity enjoyed by certain persons, however, encourages the hope that some substance will yet be found which will answer the purpose, and Fermi is continuing the research on which he has been engaged since 1898.

Urogenital Tuberculosis. C. POSNER.—At the request of the organizers of the Antituberculosis Congress, Posner reviewed the present status of our knowledge in regard to the route of infection of urogenital tuberculosis. His study is based on 2300 autopsies in Virchow's institute. He noted tuberculosis in 380 and renal tuberculosis in 115, i. e., in 5 per cent. of all the subjects and in more than 30 per cent. of the tuberculous. The kidney was affected in 89 out of 331 cases of pulmonary tuberculosis. In the 380 tuberculous subjects, 5 were less than 4 years old. The bladder had been invaded 12 times in the 115 cases in which renal tuberculosis was noted; the genital organs 8 times in men, and 9 in women. In the latter there was always concomitant tuberculous peritonitis. In the rare cases in which we are unable to discern a primary focus elsewhere during life, it may exist, notwithstanding, and the urogenital infection occur though the blood or lymphatic system as usual. This view is confirmed by the manifest connection between tuberculous orchitis and some preceding local irritation, traumatic or gonorrheal. There is a possibility that tuberculous infection may be propagated through sexual relations, as traces of tubercle bacilli have been found in the sperma of tuberculous patients with sound genital organs. When there are symptoms of genital tuberculosis, abstention from sexual relations is necessary as a matter of course. The bacillus may possibly penetrate into the blood without leaving traces of its passage. [Posner was offered the chair of urinary affections, newly created at Rome, but declined. ED.]

Tuberculosis Antitoxins in Serum. RONCAGLIOLO.—Numerous tests on persons in health or with various diseases showed that the human serum in health possesses means of defense against the toxins of tuberculosis, averaging 1000 to 4000 antitoxin units. This antitoxic power attains its highest intensity in persons addicted to the use of alcohol, reaching 10,000 units in one subject, a man of 52, with chronic alcoholism and hemorrhagic pachymeningitis. This fact seems to substantiate the popular belief in the efficacy of alcohol in the cure of tuberculosis and infectious diseases in general. Serum of dogs, rabbits, guinea-pigs, fowls, etc., has no antitoxic power, but that of cows, goats, etc., possesses it in a varying degree. Further research established that this antitoxic power in man diminishes with defective nourishment and debility; also that injection of even a large amount of Maragliano's antitoxin at one time did not alter the amount of antitoxin in the blood to an appreciable degree. But repeated injections of a small amount—1 to 2 c.c.—raised the antitoxic power in a month or two to 10,000 antitoxin units per cubic centimeter, far more than the number of units actually introduced into the organism by the serotherapy.

Action of Tuberculosis Toxins on Lung Tissue. F. BADANO.—Endopulmonary injections of soluble toxins without bacilli, produced in the dog a catarrhal bronchopulmonary process tending to spontaneous and complete recovery. In the rabbit, on the other hand, similar injections entailed cellular infiltration and formation of nodules with all the characteristics of young tubercles except giant cells. The process progressed to necrosis and complete caseous transformation of the zone of lung tissue involved.

Enzymes in Animal Kingdom. FERMI.—A proteolytic enzyme was found constantly by Fermi in the intestines of mammals, reptiles and fishes, also in the larvæ of insects, but full-grown insects, which feed by sucking, and parasitic worms, which probably obtain their nourishment by endosmosis of predigested substances, did not contain any proteolytic enzyme.

Early Diagnosis of Tuberculosis. PETRUSCHKY.—In inoculating animals to differentiate a dubious case of tuberculosis, mixed infection can usually be prevented by treating the material with a 1 per cent. solution of phenic acid, which kills the diplococcus lanceolatus, etc., but has no effect on the tubercle bacillus. To send material by mail, Petruschky recommends a metal box lined with filter-paper moistened

with the same solution. The box is wrapped in parchment paper and enclosed in a wooden box, when it can be sent safely to bacteriologic headquarters for examination. He dwells on the fact that Cornet, Brieger, Neufeld and B. Fraenkel are all advocates of the harmlessness and efficacy of the tuberculin test, but all agree that it should never be made while there is fever. Petruschky recommends it not only for the test but also for treatment, proclaiming that the early differentiation possible with this test, and immediate treatment with the tuberculin, is the most perfect and least expensive means at our command in the struggle against tuberculosis.

Cure of Malarial Hypertrophied Spleen. A. MORI.—Parona has reported four cases in which the spleen was restored to normal size in three and very much reduced in the fourth by the systematic hypodermic injection of a gram of a solution of iodin and potassium iodid in glycerin, with a small amount of guaiacol added. Mariano has reported three cases thus cured, and Mori now announces that he has obtained most excellent results with these injections in sixteen cases, combined with general antimalaria treatment. Twenty injections were sufficient to reduce the spleen to nearly normal size in acute cases, and sixty in the chronic.

Prophylaxis of Tuberculosis on Railroads. G. SANARELLI. "The railroads must take measures to guarantee the public against the dangers of infectious diseases and especially against contagion from tuberculosis in the cars. Compulsory disinfection of the cars set apart for the conveyance of contagious diseases should therefore be imposed. Notices forbidding expectoration on the floor should be posted not only in depots but also in all the passenger cars. The waiting-rooms and the majority of the compartments in the passenger and sleeping cars should be provided with cuspidors partly filled with antiseptic fluid, and smoking allowed. In other compartments, without cuspidors, spitting and smoking should be alike prohibited under penalty. The railroad companies should be invited to adopt an efficient system of ventilation. The floor coverings should be linoleum or rubber, or, if of wood, should be smooth and impermeable. The materials used for draperies and upholstering should be impermeable and capable of being sponged off. Cars should be so arranged that they can be thoroughly cleaned every day." [The Italian railroads are now testing a couple of cars constructed to conform in every particular to these requirements. ED.]

Predisposition to Tuberculosis. DE GIOVANNI.—Twenty-five years have passed since De Giovanni began his study of this subject and he has elaborated a formula permitting the early recognition of the candidates for tuberculosis as he calls them. This recognition is one of the most valuable prophylactic measures at the command of the physician, and wise counsel and appropriate measures at the different stages of development may transform a candidate otherwise inevitably doomed, into a robust and useful member of society. The organism should be examined from two separate points of view: 1, the evolution of the human race from lower types, seeking the points in the physique, where there is defective organization, which thus constitute a special morbific tendency; 2, the morphology of the physical structure, the morphologic correlation between the different organs, seeking the defective development of certain organs and especially of the circulatory system, which has a tendency to exaggerate the primary anomaly. Unequal development of the circulatory system is the principal element in this predisposition. The heart is smaller than normal in the majority of candidates, and there is always disproportion between the development of the ventricles; the left one is invariably smaller than normal, both relatively and absolutely, and the right, larger. The individual morphologic variety depends on the various proportions of other anatomic and physiologic moments, such as the comparative thickness of the walls, size of the cavities and the energy of the nervous system. In consequence of this abnormal development, the left heart inadequately fulfills its function, with consequent greater hydraulic pressure in the vessels entering it, also in the lungs and finally in the right heart, which proportionately increases in size. The importance of these hydraulic facts to the lungs becomes evident as we study their mechanism from the start, when the functional relations of extrauterine life are being established, and trace their influence on the respiratory function and the lymphatic circulation during growth. The arteries are always small in persons predisposed to pulmonary phthisis, and their defective development is intimately connected with the defective development of the heart and thorax. The veins are more numerous and larger or more conspicuous by their bluish color, especially in the regions over the visceral cavities in which the morbific predisposition is located, usually the thorax. He also includes the predominance of the lymphatic system as an element in the predisposition, as is generally recognized.

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